



Staff Report to the Zoning Administrator

Application Number: **171015**

Applicant: SAC Wireless,
representative for Verizon Wireless
Owner: Hattis, Berke, Sheridan
APN: 030-181-10 & 44

Agenda Date: February 2, 2018

Agenda Item #: 2

Time: After 9:00 a.m.

Project Description: Proposal to construct a new wireless communications facility consisting of 2 antennas, 6 Radio Remote Units, and 3 duplexers camouflaged within a new 200 square foot roof mounted enclosure. Project includes installation of associated ground mounted equipment within a 36 square foot lease area. Requires an amendment to Commercial Development Permit 78-1523-U.

Location: Property located on the northwest corner of the intersection of 41st Avenue and Corey Street (2601 41st Ave) approximately 500 feet north of the Highway 1 overpass at 41st Avenue.

Supervisory District: 1 District (District Supervisor: John Leopold)

Permits Required: Commercial Development Permit

Staff Recommendation:

- Determine that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.
- Approval of Application 171015, based on the attached findings and conditions.

Exhibits

- | | |
|---|---|
| A. Categorical Exemption (CEQA determination) | F. Radio Frequency Report |
| B. Findings | G. Assessor's, Location, Zoning and General Plan Maps |
| C. Conditions | H. Comments & Correspondence |
| D. Project plans | |
| E. Visual Simulations | |

Parcel Information

Parcel Size: 9,670 square feet & 5,053 square feet
Existing Land Use - Parcel: Commercial – Professional administrative office
Existing Land Use - Surrounding: Commercial/Residential

Project Access: Corey Street
Planning Area: Soquel
Land Use Designation: C-C (Community Commercial)
Zone District: C-2 (Community Commercial)
Coastal Zone: ☐ Inside ☒ Outside
Appealable to Calif. Coastal Comm. ☐ Yes ☒ No

Environmental Information

Geologic Hazards: Not mapped/no physical evidence on site
Soils: N/A
Fire Hazard: Not a mapped constraint
Slopes: N/A
Env. Sen. Habitat: Not mapped/no physical evidence on site
Grading: No grading proposed
Tree Removal: No trees proposed to be removed
Scenic: Mapped resource
Drainage: Existing drainage adequate
Archeology: Not mapped/no physical evidence on site

Services Information

Urban/Rural Services Line: ☒ Inside ☐ Outside
Water Supply: Soquel Creek Water District
Sewage Disposal: County Sanitation District
Fire District: Central Fire Protection District
Drainage District: Flood Control District 5

History

The subject property is developed with an existing two story office building constructed in 1979 under Commercial Development Permit 78-1523-U. The building is currently occupied by several professional administrative uses (real estate office, mortgage broker and accounting firm). The site is currently operated in compliance with all existing conditions of approval.

Project Setting

The subject properties are located on the northwest corner of the intersection of 41st Avenue and Cory Street in the Soquel Planning Area. The subject properties are shown on maps as being within the mapped scenic corridor of Highway 1 however the parcels are not visible from the highway. The surrounding area is developed primarily with commercial development consisting of a regional commercial shopping center located across 41st Avenue, a lumber yard to the south and a cluster of smaller retail and service uses to the north. The area located to the west of the subject property is zoned commercial though it consists of a mix of commercial office space and non-conforming residential uses.

Zoning & General Plan Consistency

The subject property consists of two parcels totaling approximately 12,000 square feet in size and located in the Community Commercial (C-2) zone district, a designation which allows commercial uses. The proposed wireless facility is an allowed use within the zone district and the zoning is consistent with the site's Community Commercial (C-C) General Plan designation.

Design Review

The proposed wireless facility complies with the requirements of the County Design Review Ordinance, in that the proposed project will incorporate site and architectural design features such as structural addition to the existing building to camouflage the proposed roof mounted wireless communication equipment. The proposed addition to the building will reduce the visual impact of the proposed development on surrounding land uses and the Highway 1 scenic corridor.

Conclusion

As proposed and conditioned, the project is consistent with all applicable codes and policies of the Zoning Ordinance and General Plan/LCP. Please see Exhibit "B" ("Findings") for a complete listing of findings and evidence related to the above discussion.

Staff Recommendation

- Determine that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.
- **APPROVAL** of Application Number 171015, based on the attached findings and conditions.

Supplementary reports and information referred to in this report are on file and available for viewing at the Santa Cruz County Planning Department, and are hereby made a part of the administrative record for the proposed project.

The County Code and General Plan, as well as hearing agendas and additional information are available online at: www.co.santa-cruz.ca.us

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CALIFORNIA ENVIRONMENTAL QUALITY ACT

NOTICE OF EXEMPTION

The Santa Cruz County Planning Department has reviewed the project described below and has determined that it is exempt from the provisions of CEQA as specified in Sections 15061 - 15332 of CEQA for the reason(s) which have been specified in this document.

Application Number: 171015

Assessor Parcel Number: 030-181-10

Project Location: 2601 41st Avenue

Project Description: Construct a new wireless communication facility and cosmetic modifications to an existing office building.

Person or Agency Proposing Project: SAC Wireless, LLC

Contact Phone Number: (209) 747-1725

- A. ☐ The proposed activity is not a project under CEQA Guidelines Section 15378.
B. ☐ The proposed activity is not subject to CEQA as specified under CEQA Guidelines Section 15060 (c).
C. ☐ **Ministerial Project** involving only the use of fixed standards or objective measurements without personal judgment.
D. ☐ **Statutory Exemption** other than a Ministerial Project (CEQA Guidelines Section 15260 to 15285).
E. ☒ **Categorical Exemption**

Specify type: Class 1 – Existing Facilities (Section 15301) & Class 3 - New Construction or Conversion of Small Structures (Section 15303)

F. Reasons why the project is exempt:

Construction of a wireless communication facility and modifications to an existing commercial structure in an area designated for commercial uses.

In addition, none of the conditions described in Section 15300.2 apply to this project.

Nathan MacBeth, Project Planner

Date: _____

Wireless Communication Facility Use Permit Findings

1. The development of the proposed wireless communications facility as conditioned will not significantly affect any designated visual resources, environmentally sensitive habitat resources (as defined in the Santa Cruz County General Plan/LCP Sections 5.1, 5.10, and 8.6.6.), and/or other significant County resources, including agricultural, open space, and community character resources; or there are no other environmentally equivalent and/or superior and technically feasible alternatives to the proposed wireless communications facility as conditioned (including alternative locations and/or designs) with less visual and/or other resource impacts and the proposed facility has been modified by condition and/or project design to minimize and mitigate its visual and other resource impacts.

This finding can be made in that the proposed wireless communication antennas and equipment will be screened/camouflaged with textured and painted materials and color to match the existing building. The proposal will not significantly affect any designated visual resources, environmentally sensitive resources or any other significant County resource as its visual impact will be negligible as it appears as commercial rooftop enclosures common to many commercial buildings. The project site is not readily visible from Scenic Highway 1.

2. The site is adequate for the development of the proposed wireless communications facility and, for sites located in one of the prohibited and/or restricted areas set forth in Sections 13.10.661(b) and 13.10.661(c), that the applicant has demonstrated that there are not environmentally equivalent or superior and technically feasible: (1) alternative sites outside the prohibited and restricted areas; and/or (2) alternative designs for the proposed facility as conditioned.

This finding can be made in that the proposed site is not located in a prohibited or restricted area as set forth in Sections 13.10.661(b) and 13.10.661(c). As such, no alternative site analysis or alternative designs are required. Wireless communication facilities are an allowed use with the C-2 (Community Commercial) zone district.

3. The subject property upon which the wireless communications facility is to be built is in compliance with all rules and regulations pertaining to zoning uses, subdivisions and any other applicable provisions of this title (County Code 13.10.660) and that all zoning violation abatement costs, if any, have been paid.

This finding can be made, in that the existing professional office building is a permitted use under Discretionary Permits 78-1523-U. This application proposes construction of a 200 square foot roof mounted enclosure designed to blend with the architectural style of the existing building. The proposed enclosure complies with the site and structural standards including setbacks and height for the C-2 zone district. The facility is proposed to be fully screened/camouflaged from view by the proposed rooftop enclosures.

4. The proposed wireless communication facility as conditioned will not create a hazard for aircraft in flight.

This finding can be made, in that the proposed antennas will be located within a rooftop equipment enclosure resulting in office building with a maximum height of approximately 35 feet, which complies with the commercial height standard for the C-2 zone district. As such, the proposal will not create a hazard for aircraft in flight.

5. The proposed wireless communication facility as conditioned is in compliance with all FCC and California PUC standards and requirements.

This finding can be made, in that an RF report prepared by Hammett & Edison Consulting Engineers dated January 5, 2017 indicates the project would result in an exposure level of approximately 7.2% of the applicable public exposure limit at ground level and 1.7% at the second-floor elevation of any nearby building. Consequently, sufficient evidence has been submitted to indicate the current proposal would be in compliance with FCC regulations with respect to RF exposure levels. The applicant has provided verification of an active license with the FCC for installation of wireless installation/operation.

6. The proposed wireless communication facilities as conditioned are consistent with the all applicable requirements of the Local Coastal Program (LCP).

This finding is not applicable, in that the proposed WCF is located outside the Coastal Zone and is therefore not subject to the LCP.

Development Permit Findings

1. That the proposed location of the project and the conditions under which it would be operated or maintained will not be detrimental to the health, safety, or welfare of persons residing or working in the neighborhood or the general public, and will not result in inefficient or wasteful use of energy, and will not be materially injurious to properties or improvements in the vicinity.

This finding can be made, in that the proposed wireless communication facility will comply with all FCC regulations and the proposed 200 square foot equipment enclosure has been designed to match the existing building in color and materials. The enclosure will camouflage the proposed roof-mounted equipment so that the visual impacts to neighboring properties and the Highway 1 scenic corridor will be minimized. The proposed wireless communication facility will require a building and electrical permit to ensure structural safety and energy conservation. Building plans are required to comply with all uniform building code and fire district requirements. Security measures will be required to prevent people from accessing the antennas or equipment cabinets. This includes locked entry to the rooftop and an automatic shut off valve for occupational technicians and public safety personnel.

The proposed project will not result in inefficient or wasteful use of energy, in that the most recent and efficient technology available to provide wireless communication services will be required as a condition of this permit. Upgrades to more efficient and effective technologies will be required to occur as new technologies are developed.

The proposed wireless communications facility will not deprive adjacent properties or the neighborhood of light, air, or open space, in that the structure meets all current setbacks that ensure access to light, air, and open space in the vicinity.

2. That the proposed location of the project and the conditions under which it would be operated or maintained will be consistent with all pertinent County ordinances and the purpose of the zone district in which the site is located.

This finding can be made, in that the proposed location of the wireless facility and the conditions under which it would be operated or maintained will be consistent with all pertinent County ordinances and the purpose of the C-2 (Community Commercial) zone district as the primary use of the property will be one professional administrative office building with a roof-mounted wireless facility that meets all current site standards for the zone district.

3. That the proposed use is consistent with all elements of the County General Plan and with any specific plan which has been adopted for the area.

This finding can be made, in that the proposed commercial use is consistent with the use and density requirements specified for the C-C (Community Commercial) land use designation in the County General Plan.

The proposed wireless communication facility is compatible with adjacent uses in that the wireless communications facility was subject to Design Review and its design is consistent with the design review standards, as specified in Policy 8.5.2 (Commercial Compatibility With Other Uses).

The proposed project complies with General Plan Policy 5.10.3 (Protection of Public Vistas), in that the roof-mounted enclosure has been designed to be consistent with the existing building in terms of color and finish material. The location of the proposed development is not located on a prominent ridge or within a significant public vista. Additionally, the project complies with General Plan Policy 5.10.12 in that the project has been designed to maintain the aesthetic qualities of the existing development on site including architectural style and retention of existing vegetation.

A specific plan has not been adopted for this portion of the County.

4. That the proposed use will not overload utilities and will not generate more than the acceptable level of traffic on the streets in the vicinity.

This finding can be made, in that adequate electrical service will be available to the wireless communication facility, and no additional traffic will be generated beyond periodic maintenance and inspection of the facility.

5. That the proposed project will complement and harmonize with the existing and proposed land uses in the vicinity and will be compatible with the physical design aspects, land use intensities, and dwelling unit densities of the neighborhood.

This finding can be made, in that the proposed wireless communication facility will be ancillary to the primary use of the property as a profession office building. The proposed antennas and equipment will be camouflaged within a 200 square foot rooftop equipment enclosure that matches the color and materials of the building. The proposed enclosure would comply with the site and structural dimension requirements for the C-2 zone district including setbacks and maximum height. The proposed structure is located in a mixed neighborhood containing a variety of architectural styles, and the proposed wireless facility is consistent with the land use intensity and density of the neighborhood.

6. The proposed development project is consistent with the Design Standards and Guidelines (sections 13.11.070 through 13.11.076), and any other applicable requirements of this chapter.

This finding can be made, in that the proposed wireless communication facility will be camouflaged as a rooftop equipment enclosure to minimize its visual impact to the surrounding properties. As required by the design review ordinance, the proposed rooftop enclosure will match the materials and color of the building and will appear as an integral part of the building, consistent with the appearance of any other commercial rooftop equipment enclosure. This proposal will not reduce or visually impact available open space in the surrounding area and the proposal will not result in adverse impacts to the Highway 1 scenic corridor.

Conditions of Approval

Exhibit D: Project Plans 9 Sheets Prepared by SAC Wireless, Dated 12/20/16

- I. This permit authorizes the construction of a new wireless communication facility consisting of 2 antennas, 6 remote radio units and associated roof-mounted equipment within a new 200 square foot roof-mounted enclosure. Project includes a 36 square foot ground mount enclosure for associate equipment as indicated on the approved Exhibit "D" for this permit. This approval does not confer legal status on any existing structure(s) or existing use(s) on the subject property that are not specifically authorized by this permit. Prior to exercising any rights granted by this permit including, without limitation, any construction or site disturbance, the applicant/owner shall:
 - A. Sign, date, and return to the Planning Department one copy of the approval to indicate acceptance and agreement with the conditions thereof.
 - B. Obtain a Building Permit from the Santa Cruz County Building Official.
 1. Any outstanding balance due to the Planning Department must be paid prior to making a Building Permit application. Applications for Building Permits will not be accepted or processed while there is an outstanding balance due.
 - C. The applicant shall obtain approval from the California Public Utilities Commission and the Federal Communications Commission to install and operate this facility.
 - D. Obtain an Encroachment Permit from the Department of Public Works for all off-site work performed in the County road right-of-way.
 - E. To ensure that the storage of hazardous materials on the site does not result in adverse environmental impacts, the applicant shall submit a Hazardous Materials Management Plan for review and approval by the County Department of Environmental Health Services.
 - F. Submit proof that these conditions have been recorded in the official records of the County of Santa Cruz (Office of the County Recorder) within 30 days from the effective date of this permit.
- II. Prior to issuance of a Building Permit the applicant/owner shall:
 - A. Submit final architectural plans for review and approval by the Planning Department. The final plans shall be in substantial compliance with the plans marked Exhibit "D" on file with the Planning Department. Any changes from the approved Exhibit "D" for this development permit on the plans submitted for the Building Permit must be clearly called out and labeled by standard architectural methods to indicate such changes. Any changes that are not properly called out

and labeled will not be authorized by any Building Permit that is issued for the proposed development. The final plans shall include the following additional information:

1. A copy of the text of these conditions of approval incorporated into the full size sheets of the architectural plan set.
 2. One elevation shall indicate materials and colors as they were approved by this Discretionary Application. If specific materials and colors have not been approved with this Discretionary Application, in addition to showing the materials and colors on the elevation, the applicant shall supply a color and material sheet in 8 1/2" x 11" format for Planning Department review and approval.
 3. Dimensions and location of all signage associated with the wireless facility. Size and location shall be limited to the minimum requirements of the FCC to ensure safe operation of the facility.
 4. Details showing compliance with fire department requirements.
- B. Meet all requirements and pay any applicable plan check fee of the Central Fire Protection District.
- III. All construction shall be performed according to the approved plans for the Building Permit. Prior to final building inspection, the applicant/owner must meet the following conditions:
- A. All site improvements shown on the final approved Building Permit plans shall be installed.
 - B. All inspections required by the building permit shall be completed to the satisfaction of the County Building Official.
 - C. Pursuant to Sections 16.40.040 and 16.42.080 of the County Code, if at any time during site preparation, excavation, or other ground disturbance associated with this development, any artifact or other evidence of an historic archaeological resource or a Native American cultural site is discovered, the responsible persons shall immediately cease and desist from all further site excavation and notify the Sheriff-Coroner if the discovery contains human remains, or the Planning Director if the discovery contains no human remains. The procedures established in Sections 16.40.040 and 16.42.080, shall be observed.

IV. Operational Conditions

- A. In the event that future County inspections of the subject property disclose noncompliance with any Conditions of this approval or any violation of the County Code, the owner shall pay to the County the full cost of such County inspections, including any follow-up inspections and/or necessary enforcement actions, up to and including permit revocation
- B. The use of temporary generators to power the wireless communication facility is not allowed.
- C. The equipment cabinet area must be locked at all times except when authorized personnel are present. The antennas must not be accessible to the public.
- D. Any modification in the type of equipment shall be reviewed and acted on by the Planning Department staff. The County may deny or modify the conditions at this time, or the Planning Director may refer it for public hearing before the Zoning Administrator.
- E. The camouflage materials of the enclosure screening wall shall be permanently maintained and replacement materials and/or paint shall be applied as necessary to maintain the camouflage of the facility. Modifications to the structural dimensions of the roof-mounted enclosure shall be reviewed and acted on by the Planning Department. The County may deny or modify the conditions at this time, or the Planning Director may refer it for public hearing before the Zoning Administrator.
- F. The operator of the wireless communication facility must submit within 90 days of commencement of normal operations (or within 90 days of any major modification of power output of the facility) a written report to the Santa Cruz County Planning Department documenting the measurements and findings with respect to compliance with the established Federal Communications Commission (FCC) Non-Ionizing Electromagnetic Radiation (NEIR) exposure standard. The wireless communication facility must remain in continued compliance with the NEIR standard established by the FCC at all times. Failure to submit required reports or to remain in continued compliance with the NEIR standard established by the FCC will be a violation of the terms of this permit.
- G. If, as a result of future scientific studies and alterations of FCC standards resulting from those studies, substantial evidence is presented to Santa Cruz County that radio frequency transmissions may pose a hazard to human health and/or safety, the Santa Cruz County Planning Department shall set a public hearing and in its sole discretion, may revoke or modify the conditions of this permit.
- H. All site, building, security and landscape lighting shall be directed onto the lease site and away from adjacent properties. Light sources shall not be visible from adjacent properties. Building and security lighting shall be integrated into the building design and shall be operated with a manual on/off switch. The site shall

be unlit except when authorized personnel are present at night.

- I. Transfer of Ownership: In the event that the original permittee sells its interest in the wireless communication facility, the succeeding carrier shall assume all responsibilities concerning the project and shall be held responsible to the County for maintaining consistency with all project conditions of approval. A new contact name shall be provided by the succeeding carrier to the Planning Department within thirty days of transfer of interest of the facility.
- V. As a condition of this development approval, the holder of this development approval ("Development Approval Holder"), is required to defend, indemnify, and hold harmless the COUNTY, its officers, employees, and agents, from and against any claim (including attorneys' fees), against the COUNTY, its officers, employees, and agents to attack, set aside, void, or annul this development approval of the COUNTY or any subsequent amendment of this development approval which is requested by the Development Approval Holder.
 - A. COUNTY shall promptly notify the Development Approval Holder of any claim, action, or proceeding against which the COUNTY seeks to be defended, indemnified, or held harmless. COUNTY shall cooperate fully in such defense. If COUNTY fails to notify the Development Approval Holder within sixty (60) days of any such claim, action, or proceeding, or fails to cooperate fully in the defense thereof, the Development Approval Holder shall not thereafter be responsible to defend, indemnify, or hold harmless the COUNTY if such failure to notify or cooperate was significantly prejudicial to the Development Approval Holder.
 - B. Nothing contained herein shall prohibit the COUNTY from participating in the defense of any claim, action, or proceeding if both of the following occur:
 1. COUNTY bears its own attorney's fees and costs; and
 2. COUNTY defends the action in good faith.
 - C. Settlement. The Development Approval Holder shall not be required to pay or perform any settlement unless such Development Approval Holder has approved the settlement. When representing the County, the Development Approval Holder shall not enter into any stipulation or settlement modifying or affecting the interpretation or validity of any of the terms or conditions of the development approval without the prior written consent of the County.
 - D. Successors Bound. "Development Approval Holder" shall include the applicant and the successor(s) in interest, transferee(s), and assign(s) of the applicant.

Minor variations to this permit which do not affect the overall concept or density may be approved by the Planning Director at the request of the applicant or staff in accordance with Chapter 18.10 of the County Code.

Application #: 171015
APN: 030-181-10
Owner: Hattis, Berke, Sheridan

Please note: This permit expires three years from the effective date listed below unless a building permit (or permits) is obtained for the primary structure described in the development permit (does not include demolition, temporary power pole or other site preparation permits, or accessory structures unless these are the primary subject of the development permit). Failure to exercise the building permit and to complete all of the construction under the building permit, resulting in the expiration of the building permit, will void the development permit, unless there are special circumstances as determined by the Planning Director.

Approval Date: _____

Effective Date: _____

Expiration Date: _____

Wanda Williams
Deputy Zoning Administrator

Appeals: Any property owner, or other person aggrieved, or any other person whose interests are adversely affected by any act or determination of the Zoning Administrator, may appeal the act or determination to the Planning Commission in accordance with chapter 18.10 of the Santa Cruz County Code.



HWY 1 & 41ST SC1
PSL # 263384
2601 41ST AVENUE
SOQUEL, CA 95073

T-1[illegible]

ENDORSE:	SIGNATURE	DATE
INT. ACQUISITION:		
PLANNER:		
CONSTRUCTION:		
LAUNCHING:		

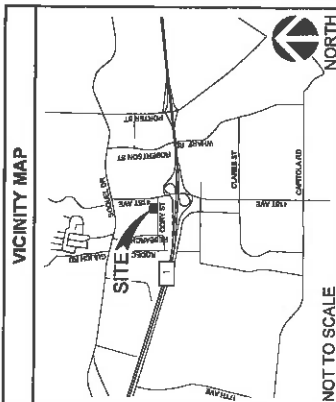
APPLICANT/ISSUE	PROJECT SUMMARY
2551001 2551001 PUEBLO DRIVE, BLDG 8 WALKLEY CORP., CA 94609 PHONE (415) 254-0475	ASSESSOR'S PARCEL NUMBER GEODETIC COORDINATES UTM LONG. LAT. 121° 57' 30.0" W 34° 12' 00" N ELEVATION (BASE OF TOWER)
SAC/WRISLER, LEO 1801 HERITAGE LANE SACRAMENTO, CA 95815 SACRAMENTO, CA 95815 TEL (916) 441-1100 TEL/FAX (916) 441-1723 CUST. ORG./TRANSPO/COM	
PROPERTY OWNER:	
LARRY HART, INCORP. BERNIE ELAND 10000 W. 10TH AVE. SUITE 100, CA 94607 TEL (415) 254-0475 TELEPHONE (415) 334-3349	
PROPERTY INFORMATION:	
SITE NAME HWY 1 & 41ST C/L SITE ADDRESS 3001 41ST AVENUE CITY SAN FRANCISCO COUNTY OF S.F. JURISDICTION	
CONSTRUCTION INFORMATION	
TYPE OF CONSTRUCTION OCCUPANCY COMMERCIAL	GROSS SQUARE FEET V COMMERCIAL
ACCOMPLISHMENT REQUIREMENTS:	
CURRENT ZONING:	FACILITY IS UNIMPAVED AND NOT FOR A NEW

GENERAL CONTRACTOR NOTES

DO NOT SCALE DIMENSIONS IF NOT FULL SIZE (1/4" X 3/8")

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR THE SAME.

CODE COMPLIANCE



DRIVING DIRECTIONS

FROM: ZIMMERLICH BLVD.
TO: 2801 61ST AVE. NORTH
DOWNTOWN CHENNAI, CA 94004

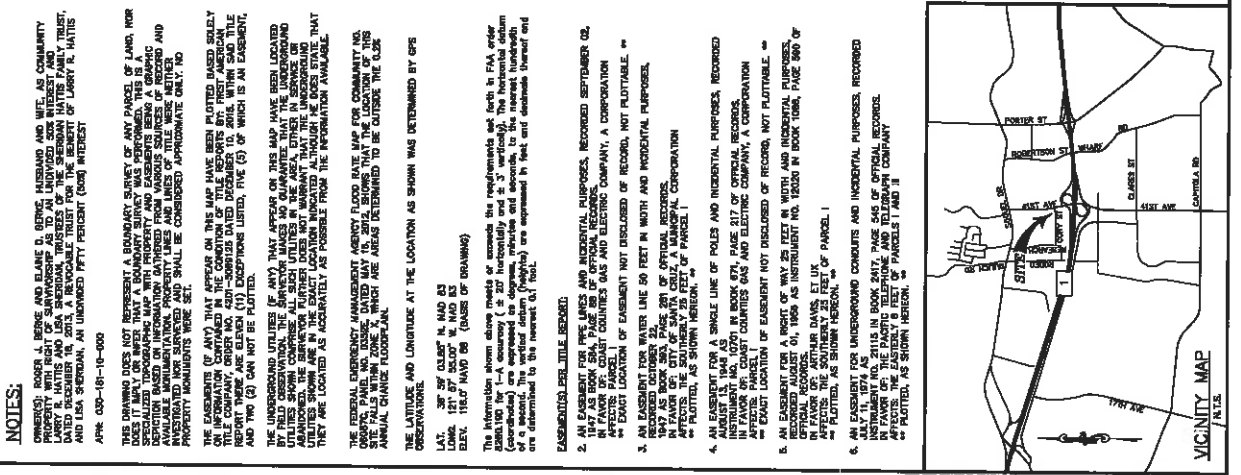
1. HEAD NORTHWEST ON MITCHELL DRIVE TOWARD GUN POWDER ROAD
2. TURN RIGHT ONTO GUN POWDER ROAD
3. TURN LEFT ONTO 1ST AVE. NORTH
4. USE THE LEFT 3 LANE LANE TO TURN LEFT ONTO THE INTERSTATE 68 S RAMP TO SAN JOSE
5. TAKE THE 1ST RAMP TO SAN JOSE
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PROJECT DESCRIPTION
NEW WIRELESS IS A VOICED WIRELESS UNMANNED TELECOMMUNICATION WIRELESS FACILITY THAT CONSIST OF THE FOLLOWING:
<ul style="list-style-type: none"> (1) NEW ANTENNAS (2) NEW WIRELESS EQUIPMENT (3) NEW WIRELESS CABLES (4) NEW WIRELESS CLOUTRE (5) NEW WIRELESS (6) NEW WIRELESS (7) NEW WIRELESS CABINET (8) NEW WIRELESS WIRELESS (9) NEW WIRELESS WIRELESS (10) NEW WIRELESS WIRELESS (11) NEW WIRELESS WIRELESS (12) NEW WIRELESS WIRELESS (13) NEW WIRELESS WIRELESS (14) NEW WIRELESS WIRELESS (15) NEW WIRELESS WIRELESS (16) NEW WIRELESS WIRELESS (17) NEW WIRELESS WIRELESS (18) NEW WIRELESS WIRELESS (19) NEW WIRELESS WIRELESS (20) NEW WIRELESS WIRELESS (21) NEW WIRELESS WIRELESS (22) NEW WIRELESS WIRELESS (23) NEW WIRELESS WIRELESS (24) NEW WIRELESS WIRELESS (25) NEW WIRELESS WIRELESS (26) NEW WIRELESS WIRELESS (27) NEW WIRELESS WIRELESS (28) NEW WIRELESS WIRELESS (29) NEW WIRELESS WIRELESS (30) NEW WIRELESS WIRELESS (31) NEW WIRELESS WIRELESS (32) NEW WIRELESS WIRELESS (33) NEW WIRELESS WIRELESS (34) NEW WIRELESS WIRELESS (35) NEW WIRELESS WIRELESS (36) NEW WIRELESS WIRELESS (37) NEW WIRELESS WIRELESS (38) NEW WIRELESS WIRELESS (39) NEW WIRELESS WIRELESS (40) NEW WIRELESS WIRELESS (41) NEW WIRELESS WIRELESS (42) NEW WIRELESS WIRELESS (43) NEW WIRELESS WIRELESS (44) NEW WIRELESS WIRELESS (45) NEW WIRELESS WIRELESS (46) NEW WIRELESS WIRELESS (47) NEW WIRELESS WIRELESS (48) NEW WIRELESS WIRELESS (49) NEW WIRELESS WIRELESS (50) NEW WIRELESS WIRELESS (51) NEW WIRELESS WIRELESS (52) NEW WIRELESS WIRELESS (53) NEW WIRELESS WIRELESS (54) NEW WIRELESS WIRELESS (55) NEW WIRELESS WIRELESS (56) NEW WIRELESS WIRELESS (57) NEW WIRELESS WIRELESS (58) NEW WIRELESS WIRELESS (59) NEW WIRELESS WIRELESS (60) NEW WIRELESS WIRELESS (61) NEW WIRELESS WIRELESS (62) NEW WIRELESS WIRELESS (63) NEW WIRELESS WIRELESS (64) NEW WIRELESS WIRELESS (65) NEW WIRELESS WIRELESS (66) NEW WIRELESS WIRELESS (67) NEW WIRELESS WIRELESS (68) NEW WIRELESS WIRELESS (69) NEW WIRELESS WIRELESS (70) NEW WIRELESS WIRELESS (71) NEW WIRELESS WIRELESS (72) NEW WIRELESS WIRELESS (73) NEW WIRELESS WIRELESS (74) NEW WIRELESS WIRELESS (75) NEW WIRELESS WIRELESS (76) NEW WIRELESS WIRELESS (77) NEW WIRELESS WIRELESS (78) NEW WIRELESS WIRELESS (79) NEW WIRELESS WIRELESS (80) NEW WIRELESS WIRELESS (81) NEW WIRELESS WIRELESS (82) NEW WIRELESS WIRELESS (83) NEW WIRELESS WIRELESS (84) NEW WIRELESS WIRELESS (85) NEW WIRELESS WIRELESS (86) NEW WIRELESS WIRELESS (87) NEW WIRELESS WIRELESS (88) NEW WIRELESS WIRELESS (89) NEW WIRELESS WIRELESS (90) NEW WIRELESS WIRELESS (91) NEW WIRELESS WIRELESS (92) NEW WIRELESS WIRELESS (93) NEW WIRELESS WIRELESS (94) NEW WIRELESS WIRELESS (95) NEW WIRELESS WIRELESS (96) NEW WIRELESS WIRELESS (97) NEW WIRELESS WIRELESS (98) NEW WIRELESS WIRELESS (99) NEW WIRELESS WIRELESS (100) NEW WIRELESS WIRELESS

PROJECT TEAM

PLANNING BAC MARLBOR, LLC 1000 W. ASH LANE SUITE 102 CHICAGO, IL 60606 CONTACT: JOYCE M. COVATTA TELEPHONE: (200) 447-1725 E-MAIL: JOYCE.M.COVATTA@BAC.COM	UTILITY COORDINATOR BAC MARLBOR, LLC 1000 W. ASH LANE SUITE 102 CHICAGO, IL 60606 CONTACT: JAMES A. BARRON TELEPHONE: (815) 540-0208
SITE ACQUISITION BAC MARLBOR, LLC 1000 W. ASH LANE SUITE 102 CHICAGO, IL 60606 CONTACT: CASSY COVATTA TELEPHONE: (200) 447-1728 E-MAIL: CASSY.M.COVATTA@BAC.COM	ARCHITECT BAC MARLBOR, LLC 1000 W. ASH LANE SUITE 102 CHICAGO, IL 60606 CONTACT: NINA A.S. BRITT TELEPHONE: (200) 447-2286/25 FAX: (815) 756-3737
SURVEYOR BAC MARLBOR, LLC P.O. BOX 81508 CHICAGO, IL 60681 CONTACT: GREG SMITH, PLS TELEPHONE: (815) 363-1217	

VERIZON WIRELESS SIGNATURE BLOCK		
SIGNATURE	SIGNATURE	DATE
TELECOM/STOCK		
CONSTRUCTION		
NOFC		
WORKMAN		
ELCO		
EQUIPMENT		
PROJECT ADMINISTRATOR		
NO ADMINISTRATOR		

C-1

ISSUE STATUS

REV	DATE	DESCRIPTION	BY
1	05/01/18	ISSUED FOR PERMIT	SC
2	05/02/18	100% ZONING	SC
3	05/02/18	100% ZONING	SC
4	05/02/18	100% ZONING	SC
5	10/01/18	REVIEWED FOR ZONING	SC
6	10/01/18	REVIEWED FOR ZONING	SC

WIRELESS
 2705 MITCHELL DRIVE, BLDG 9
 WALNUT CREEK, CA 94598
 925.254.2000

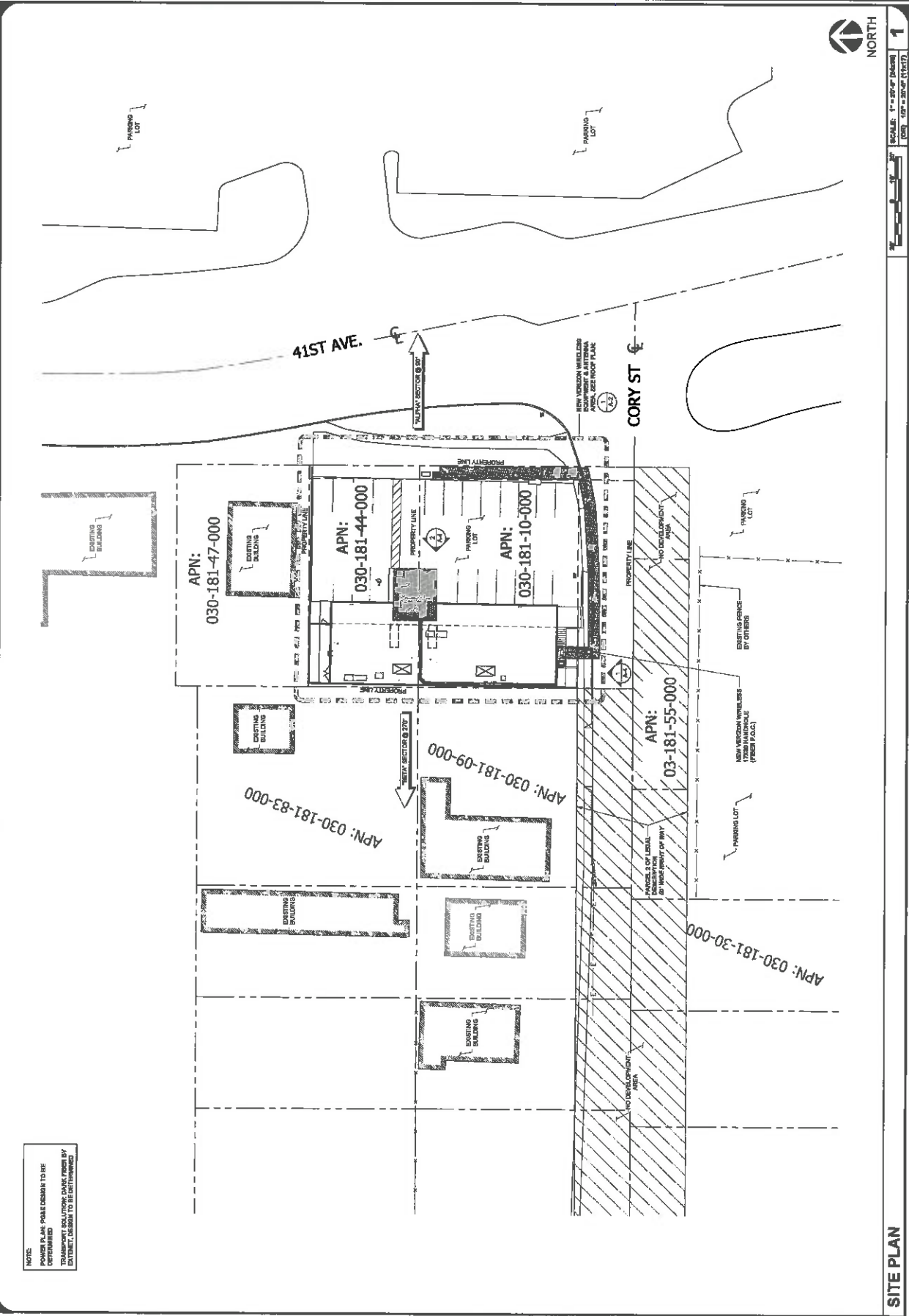
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SMALL CELL PROJECT

HWY 1 & 41ST
SC1
PSL # 263384
 2601 41ST AVENUE
 SOQUEL, CA 95073

SHEET TITLE
SITE PLAN

A-1



ISSUE STATUS

REV	DATE	DESCRIPTION	BY	CHK
1	02/01/15	ISSUED FOR PERMIT	WKS	WKS
2	02/02/15	REVISED FOR PERMIT	WKS	WKS
3	02/02/15	REVISED FOR PERMIT	WKS	WKS
4	02/02/15	REVISED FOR PERMIT	WKS	WKS
5	02/02/15	REVISED FOR PERMIT	WKS	WKS

WIRELESS

JOHN S. SUTHERLAND, PRESIDENT
1000 S. GATEWAY AVENUE
SUITE 100
SAN JOSE, CA 95128
408.261.1111

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WALNUT CREEK, CA 94598

verizon wireless

SMALL CELL PROJECT

SC1

PSL # 263384

2001 41ST AVENUE
SUQUET, CA 95073

HWY 1 & 41ST

SC1

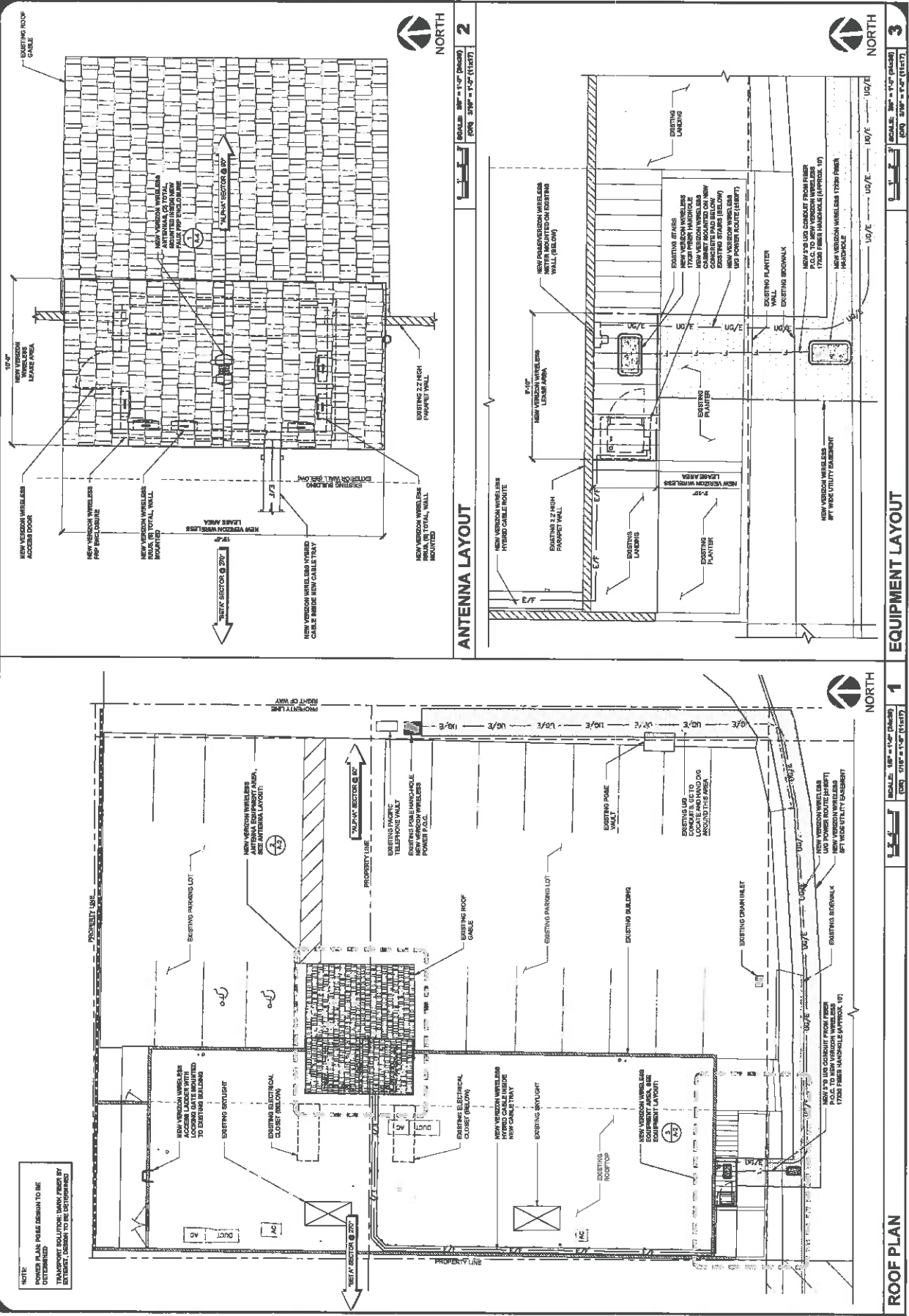
PSL # 263384

2001 41ST AVENUE
SUQUET, CA 95073

SHEET TITLE:

ROOF PLAN, ANTENNA & EQUIPMENT LAYOUT

A-2



ANDREW • SBMRH-106EA

FINISH MATERIAL: PPG UV RESISTANT
 FINISH COLOR: LIGHT GRAY
 DIMENSIONS, IN/MT: 55.0" x 11.0" x 7.1"
 WEIGHT, LB: 33.5 LB
 PRE-MOUNTED BRACKETS: 9 x 7/16 UN FEMALE
 CONNECTOR: 9 x 7/16 UN FEMALE

ANTENNA DETAIL		1		2		3		4		5	
		SCALE	N.T.A.	NOT USED		SCALE	N.T.A.	NOT USED		SCALE	N.T.A.

ANTENNA DETAIL		6		7	
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ANTENNA DETAIL		8		9	
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HWY 1 & 41ST SC1

PSL # 263384

2601 41ST AVENUE
SOQUEL, CA 95073

REV.	DATE	DESCRIPTION	BY
0	02/02/19	100% ZONING	FR
1	02/20/19	100% ZONING	FR
2	03/02/19	FIBER	FR
3	06/28/19	100% ZONING	FR
4	06/13/19	REVISED 100% ZONING	ON
5	10/01/19	REVISED 100% ZONING	MB



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Verizon Wireless
2785 MITCHELL DRIVE, BLDG 9
WALNUT CREEK, CA 94598

SMALL CELL PROJECT

HWY 1 & 41ST
SC1
PSL # 263384
2601 41ST AVENUE
SOQUEL, CA 95073

TITLE SHEET

4

041

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CONTRACTOR TO CALL TO
MARK UTILITIES AT
LEAST TWO WORKING
DAYS PRIOR TO DIGGING

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SAC WIRELESS SIGNATURE BLOCK		SIGNATURE	DATE
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PROJECT SUMMARY	APPLICANT/LESSEE  VET CAT 1000 14 TH AVENUE, SUITE 200 WILLOW GROVE, CALIFORNIA 94095 OFFICE (805) 275-9300	ASSessor'S PARCEL NUMBER 000-36-10-000-0-000-01-14 GEODETIC COORDINATES LAT 39°52' 04.89" N (NAD 83) LONG 119°20' 00.00" W (NAD 83) ELEVATION 116.2' NAVD 83 (BASED ON DRAWING)
PROPERTY OWNER LARRY MARTY ROSSER BERG & JUAN D SOUTHERN CALIFORNIA CONTRACT LARRY MARTY 1000 14 TH AVENUE, SUITE 200 WILLOW GROVE, CALIFORNIA 94095	APPLICANT'S REPRESENTATIVE SMC TRIMBLE LLC 1000 14 TH AVENUE, SUITE 100 WILLOW GROVE, CALIFORNIA 94095 TEL 805-275-9300 FAX 805-275-9301 CUST CREDIT CARD # 0000 1411 728 CREDIT CARD TYPE VISA	PROPERTY INFORMATION: SITE NAME 1000 14 TH AVE SITE NUMBER 20000A SITE ADDRESS 1000 14 TH AVENUE, SUITE 200 JURISDICTION COUNTY OF SANTA CRUZ
PROPERTY OWNER LARRY MARTY ROSSER BERG & JUAN D SOUTHERN CALIFORNIA CONTRACT LARRY MARTY 1000 14 TH AVENUE, SUITE 200 WILLOW GROVE, CALIFORNIA 94095	APPLICANT'S REPRESENTATIVE SMC TRIMBLE LLC 1000 14 TH AVENUE, SUITE 100 WILLOW GROVE, CALIFORNIA 94095 TEL 805-275-9300 FAX 805-275-9301 CUST CREDIT CARD # 0000 1411 728 CREDIT CARD TYPE VISA	CONSTRUCTION INFORMATION AREA OF CONSTRUCTION 4200 SQUARE FEET OCCUPANCY V TYPE OF CONSTRUCTION CURRENT ZONING ACCESSIBILITY REQUIREMENTS

GENERAL CONTRACTOR NOTES

CODE COMPLIANCE

1. 2010 CALIFORNIA ADMINISTRATIVE CODE
 2. 2010 CALIFORNIA BILLING CODE
 3. 2010 CALIFORNIA CODE OF REGULATIONS
 4. 2013 CALIFORNIA FIRE CODE
 5. LOCAL AND COUNTY ORDINANCES

[illegible]

DRIVING DIRECTIONS

FROM WILMINGTON, DEL. TO
NEWARK, N.J. 200 MILES

TO 2001 LEFT AVENUE
NORTH, NEWARK, NEW JERSEY

1. LEAVE NORTH AVENUE, NEWARK, TURNING DOWN DARK PINEAPPLE ROAD
2. TURN RIGHT ONTO DARK GREEN ROAD
3. TURN LEFT ONTO WHITE ROAD
4. TURN RIGHT ONTO WHITE ROAD. THE INTERSECTION IS 500 YARDS TO SAN JOSE
5. MERGE ONTO 500 S
6. TURN LEFT ONTO 500 S. FOLLOW SIGNAGE FOR INTERSTATE 95 TO SAN JOSE
7. MERGE LEFT AT THE FORK, FOLLOW SIGNAGE FOR INTERSTATE 95 AND SAN JOSE AND MERGE
8. CONTINUE ONTO CA-15
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PROJECT DESCRIPTION

THE PROJECT IS A VERSION WITH 500 UNMANAGED TELECOMMUNICATIONS WIRELESS FACILITY. IT WILL CONSIST OF THE FOLLOWING:

- (1) NEW ANTENNAS
- (1) NEW FIBER OPTIC CABLE
- (8) NEW TURRELS
- (2) NEW PUMPERS
- (1) NEW WIRELESS CABLE
- (1) NEW WIRELESS WIRELESS PUMP METER
- (1) NEW ACCESS LADDER W/ LOCKING GATE
- (2) NEW TILT PUMP VALVES

PROJECT TEAM

<u>SITE ACQUISITION</u> SAC WHEELER, LLC 10115 W. FAYETTE LANE SUITE 100 SACRAMENTO, CA 95815 TELEPHONE (916) 714-1728 FAX (916) 714-1728 CABET.CS@SAC.WHEELER.COM	<u>PLANNING</u> SAC WHEELER, LLC 10115 W. FAYETTE LANE SUITE 100 SACRAMENTO, CA 95815 TELEPHONE (916) 714-1728 FAX (916) 714-1728 CABET.CS@SAC.WHEELER.COM	<u>UTILITY COORDINATOR</u> SAC WHEELER, LLC 10115 W. FAYETTE LANE SUITE 100 SACRAMENTO, CA 95815 TELEPHONE (916) 714-1728 FAX (916) 714-1728 CABET.CS@SAC.WHEELER.COM	<u>SURVEYING</u> BIRN HOOD SURVEYING ENGINEERING 10000 W. 15TH AVENUE SACRAMENTO, CA 95830 TELEPHONE (916) 363-1217 FAX (916) 363-1217
--	--	---	--

VERIZON WIRELESS SIGNATURE BLOCK		
ONE-PARTY	SIGNATURE	DATE
SITE ACQUISITION		
CONSTRUCTION		
RADIO		
OPERATIONS		
TELECO		
EQUIPMENT		
PROJECT ADMINISTRATOR		
NO ADMINISTRATOR		

C-1

ISSUE STATUS	DATE	DESCRIPTION	BY
1	05/09/18	ISSUED FOR PERMITS	FR
2	05/09/18	ISSUED FOR PERMITS	FR
3	05/09/18	ISSUED FOR PERMITS	FR
4	05/09/18	ISSUED FOR PERMITS	FR
5	05/09/18	ISSUED FOR PERMITS	FR
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18	05/09/18	ISSUED FOR PERMITS	FR
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WIRELESS
 1000 ZION RD
 SUITE 100
 SAN ANTONIO, TX 78205
 (214) 440-1000
 WWW.WIRELESS.COM

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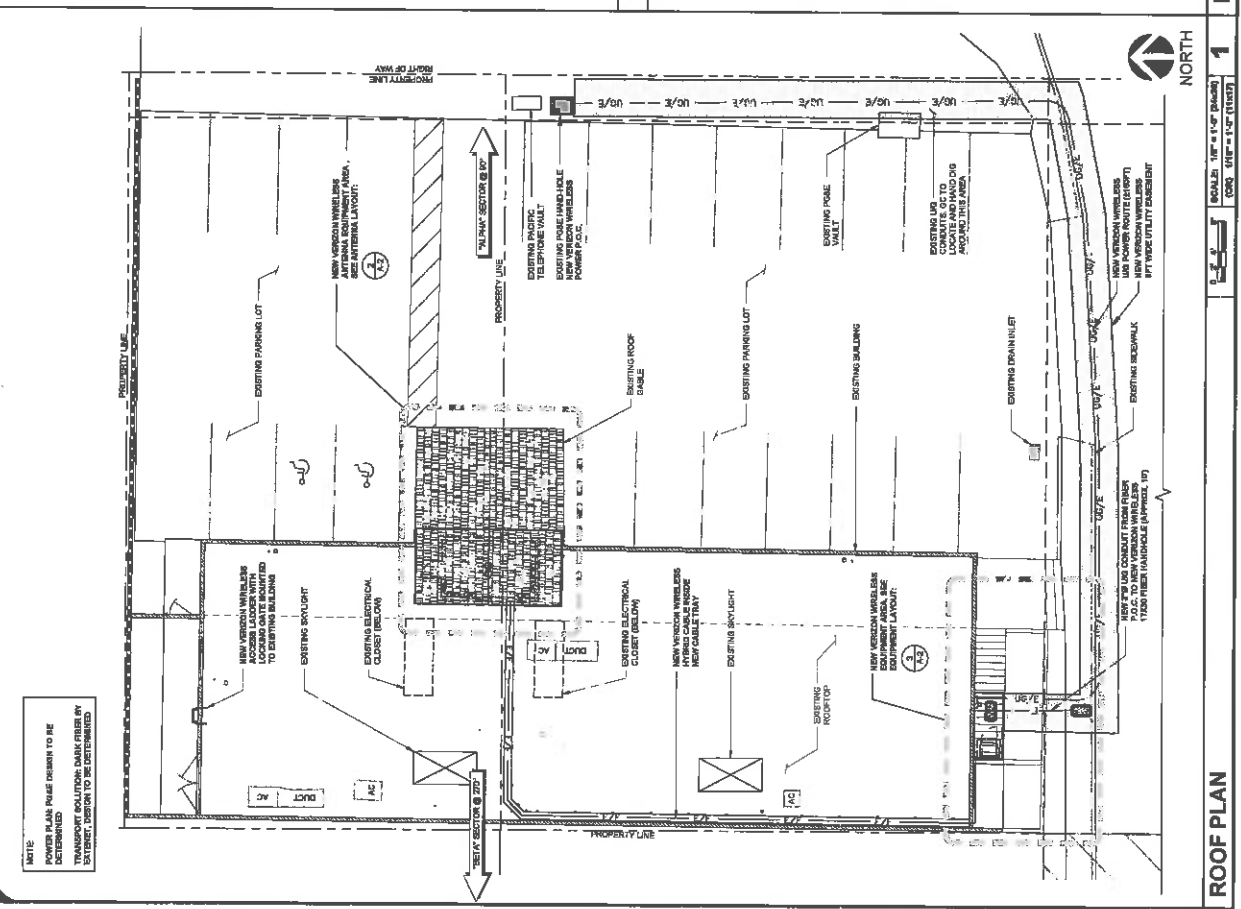
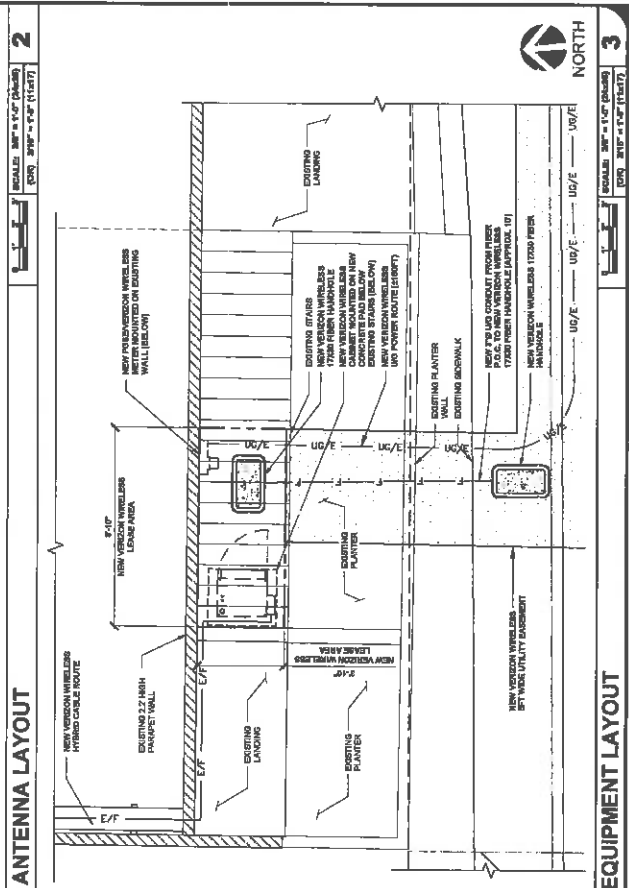
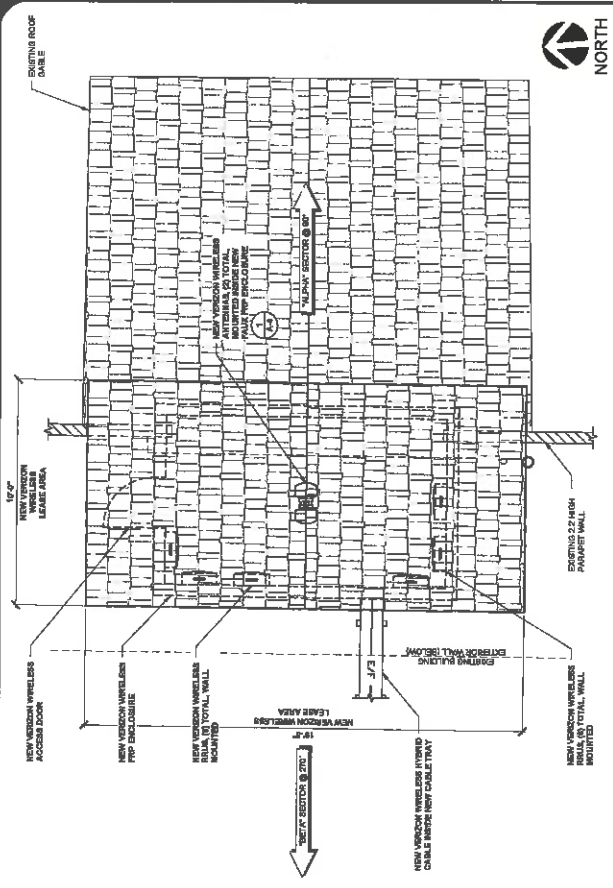
verizon wireless
 2785 MITCHELL DRIVE, BLDG 9
 WALNUT CREEK, CA 94598

SMALL CELL PROJECT

HWY 1 & 41ST
SC1
PSL # 263384
 2801 41ST AVENUE
 SUITE 100, CA 95073

SHEET TITLE:
ROOF PLAN, ANTENNA & EQUIPMENT LAYOUT

A-2



ANDREW - SBNNH-IDR5A

MOBILE MATERIAL: PTC UV RESISTANT
RADOMER COLOR: LIGHT GRAY
DIMENSIONS: 11.0" x 7.1" x 7.1"
WEIGHT: 1.0 LB
PRE-MOUNTED BRACKET: 3.5 LB
CONNECTOR: 8 x 7/16 IN FEMALE

11.0"

7.1"

7.1"

CONNECTOR

FRONT

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ANTENNA DETAIL

REV	DATE	DESCRIPTION	BY	APP
1	03/01/18	100% ZONING	FR	
2	03/01/18	100% ZONING	FR	
3	03/01/18	100% ZONING	FR	
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5	03/01/18	100% ZONING	FR	

ISSUE STATUS

2801 41ST AVENUE
SOQUEL, CA 95073
PSL # 263384
SC1
HWY 1 & 41ST

SHEET TITLE:
DETAILS

A-4

SMALL CELL PROJECT

2785 MITCHELL DRIVE, BLDG 9
WALNUT CREEK, CA 94598
verizon wireless

PROPRIETARY INFORMATION
THIS DOCUMENT IS THE PROPERTY OF VERIZON WIRELESS. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN. IT IS NOT TO BE REPRODUCED, COPIED, OR DISTRIBUTED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF VERIZON WIRELESS.

REV	DATE	DESCRIPTION	BY	APP
1	03/01/18	100% ZONING	FR	
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2	03/01/18	100% ZONING	FR	

HWY 1 & 41ST SC1
 PSL # 263364
 2601 41ST AVENUE
 SOQUEL, CA 95073



VICINITY MAP
PHOTOSIMULATION VIEWPOINTS

SJC
 17122 ELSES
 8016 SHOREHAM PLACE SUITE 100
 SAN JOSE, CA 95128
 OFFICE: (415) 704-3766



DISCLAIMER:
 THIS PHOTOSIMULATION IS INTENDED AS A GRAPHICAL REPRESENTATION
 OF EXISTING AND PROPOSED SITE CONDITIONS BASED ON THE PROJECT/
 DRAWING PLANS. IT IS NOT INTENDED FOR CONSTRUCTION. ACTUAL, FINAL
 CONSTRUCTION MAY VARY

HWY 1 & 41ST SC1
 PSL # 263384
 2801 41ST AVENUE
 SOQUEL, CA 95073

SC
 371 RELEASES
 2015 BORDHAM PLACE SUITE 150
 SAN JOSE, CA 95131
 OFFICE: (415) 726-3776

PHOTOSIMULATION VIEWPOINT 1

NEW



HWY 1 & 41ST SC1
 PSL # 263384
 2601 41ST AVENUE
 SOQUEL, CA 95073



PHOTOSIMULATION VIEWPOINT 2

NEW

NEW VERIZON WIRELESS
 ANTENNAS, (2) TOTAL AND
 RRUS, (6) TOTAL MOUNTED
 INSIDE NEW FRP ENCLOSURE



EXISTING





NEW

**- NEW VERIZON
WIRELESS CABINET
AND METER BELOW
EXISTING STAIRS**



EXISTING

**Verizon Wireless • Proposed Base Station (Site No. 263384 “Hwy 1 & 41st Ave SC1”)
2601 41st Avenue • Soquel, California**

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Verizon Wireless, a personal wireless telecommunications carrier, to evaluate the base station (Site No. 263384 “Hwy 1 & 41st Ave SC1”) proposed to be located at 2601 41st Avenue in Soquel, California, for compliance with appropriate guidelines limiting human exposure to radio frequency (“RF”) electromagnetic fields.

Executive Summary

Verizon proposes to install directional panel antennas above the roof of the two-story office building located at 2601 41st Avenue in Soquel. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy; certain mitigation measures are recommended to comply with FCC occupational guidelines.

Prevailing Exposure Standards

The U.S. Congress requires that the Federal Communications Commission (“FCC”) evaluate its actions for possible significant impact on the environment. A summary of the FCC’s exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. The most restrictive FCC limit for exposures of unlimited duration to radio frequency energy for several personal wireless services are as follows:

Wireless Service	Frequency Band	Occupational Limit	Public Limit
Microwave (Point-to-Point)	5–80 GHz	5.00 mW/cm ²	1.00 mW/cm ²
WiFi (and unlicensed uses)	2–6	5.00	1.00
BRS (Broadband Radio)	2,600 MHz	5.00	1.00
WCS (Wireless Communication)	2,300	5.00	1.00
AWS (Advanced Wireless)	2,100	5.00	1.00
PCS (Personal Communication)	1,950	5.00	1.00
Cellular	870	2.90	0.58
SMR (Specialized Mobile Radio)	855	2.85	0.57
700 MHz	700	2.40	0.48
[most restrictive frequency range]	30–300	1.00	0.20

General Facility Requirements

Base stations typically consist of two distinct parts: the electronic transceivers (also called “radios” or “channels”) that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The transceivers are often located at ground level and are connected to the antennas by coaxial cables. A



HAMMETT & EDISON, INC.
CONSULTING ENGINEERS
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H7I2.2
Page 1 of 4

**Verizon Wireless • Proposed Base Station (Site No. 263384 “Hwy 1 & 41st Ave SC1”)
2601 41st Avenue • Soquel, California**

small antenna for reception of GPS signals is also required, mounted with a clear view of the sky. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

Computer Modeling Method

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, “Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation,” dated August 1997. Figure 2 describes the calculation methodologies, reflecting the facts that a directional antenna’s radiation pattern is not fully formed at locations very close by (the “near-field” effect) and that at greater distances the power level from an energy source decreases with the square of the distance from it (the “inverse square law”). The conservative nature of this method for evaluating exposure conditions has been verified by numerous field tests.

Site and Facility Description

Based upon information provided by Verizon, including zoning drawings by SAC Wireless, LLC, dated October 31, 2016, it is proposed to install two Andrew Model SBNHH-1D65A directional panel antennas within a roofed view screen enclosure to be constructed above the east side of the two-story office building located at 2601 41st Avenue in Soquel. The two antennas would employ no downtilt, would be mounted at an effective height of about 30 feet above ground, 8 feet above the main roof, and would be oriented toward 90°T and 270°T. The maximum effective radiated power in any direction would be 9,010 watts, representing simultaneous operation at 4,100 watts for AWS, 4,020 watts for PCS, and 890 watts for 700 MHz service; no operation on cellular frequencies is presently proposed from this site. There are reported no other wireless telecommunications base stations operating at or near the site.

Study Results

For a person anywhere at ground, the maximum RF exposure level due to the proposed Verizon operation is calculated to be 0.066 mW/cm², which is 7.2% of the applicable public exposure limit. The maximum calculated level at the second-floor elevation of any nearby building* is 1.7% of the public exposure limit. It should be noted that these results include several “worst-case” assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

* Including the residences located at least 50 feet away, based on photographs from Google Maps.



**Verizon Wireless • Proposed Base Station (Site No. 263384 "Hwy 1 & 41st Ave SC1")
2601 41st Avenue • Soquel, California**

Levels may exceed the applicable public exposure limit on the roof of the subject building, in front of the antennas.

Recommended Mitigation Measures

Due to their mounting location, requiring specialized equipment or a climb up an exterior, locked ladder to reach the roof, the Verizon antennas would not be accessible to unauthorized persons, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. To prevent occupational exposures in excess of the FCC guidelines, it is recommended that appropriate RF safety training, to include review of personal monitor use and lockout/tagout procedures, be provided to all authorized personnel who have access to the roof, including employees and contractors of Verizon and of the property owner. No access within 19 feet directly in front of the Verizon antennas themselves, such as might occur during certain maintenance activities above the main roof or on the roof over the exterior staircase, should be allowed while the base station is in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. It is recommended that boundary lines be marked on the roof with blue paint to identify the area on the main roof in which exposure levels are calculated to exceed the public limit, as shown in Figure 3. It is recommended that explanatory signs[†] be posted at the roof access ladder, at the boundary lines, on the roof over the staircase, and on the antenna enclosure in front of the antennas, readily visible from any angle of approach to persons who might need to work within that distance.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the base station proposed by Verizon Wireless at 2601 41st Avenue in Soquel, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations. Training authorized personnel, marking roof areas, and posting explanatory signs are recommended to establish compliance with occupational exposure limits.

[†] Signs should comply with OET-65 color, symbol, and content recommendations. Contact information should be provided (e.g., a telephone number) to arrange for access to restricted areas. The selection of language(s) is not an engineering matter, and guidance from the landlord, local zoning or health authority, or appropriate professionals may be required.



**Verizon Wireless • Proposed Base Station (Site No. 263384 "Hwy 1 & 41st Ave SC1")
2601 41st Avenue • Soquel, California**

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration Nos. E-13026 and M-20676, which expire on June 30, 2017. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.

January 5, 2017



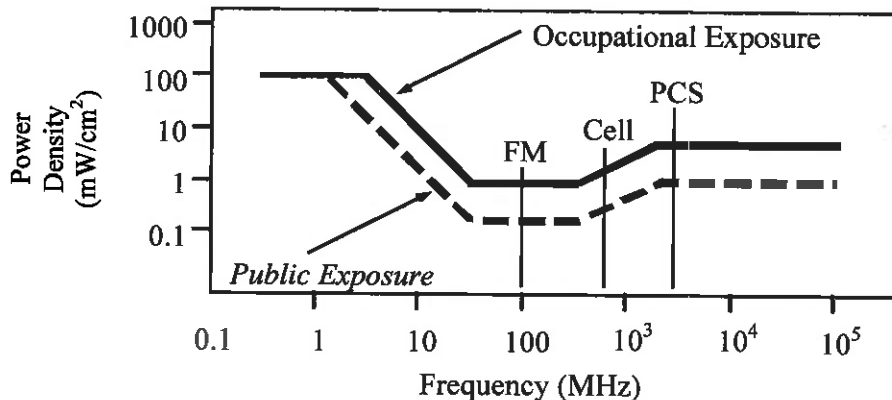
William F. Hammett
William F. Hammett, P.E.
707/996-5200

FCC Radio Frequency Protection Guide

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements ("NCRP"). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent standard, developed by the Institute of Electrical and Electronics Engineers and approved as American National Standard ANSI/IEEE C95.1-2006, "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," includes similar limits. These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

As shown in the table and chart below, separate limits apply for occupational and public exposure conditions, with the latter limits (in *italics* and/or dashed) up to five times more restrictive:

<u>Frequency</u>	<u>Electromagnetic Fields (f is frequency of emission in MHz)</u>					
Applicable Range (MHz)	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm ²)	
0.3 – 1.34	614	<i>614</i>	1.63	<i>1.63</i>	100	<i>100</i>
1.34 – 3.0	614	<i>823.8/f</i>	1.63	<i>2.19/f</i>	100	<i>180/f²</i>
3.0 – 30	1842/f	<i>823.8/f</i>	4.89/f	<i>2.19/f</i>	900/f ²	<i>180/f²</i>
30 – 300	61.4	<i>27.5</i>	0.163	<i>0.0729</i>	1.0	<i>0.2</i>
300 – 1,500	3.54√f	<i>1.59√f</i>	√f/106	<i>√f/238</i>	f/300	<i>f/1500</i>
1,500 – 100,000	137	<i>61.4</i>	0.364	<i>0.163</i>	5.0	<i>1.0</i>



Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has built those formulas into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radio sources. The program allows for the description of buildings and uneven terrain, if required to obtain more accurate projections.



HAMMETT & EDISON, INC.
CONSULTING ENGINEERS
SAN FRANCISCO

FCC Guidelines
Figure 1

RFR.CALC™ Calculation Methodology

Assessment by Calculation of Compliance with FCC Exposure Guidelines

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The maximum permissible exposure limits adopted by the FCC (see Figure 1) apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits.

Near Field.

Prediction methods have been developed for the near field zone of panel (directional) and whip (omnidirectional) antennas, typical at wireless telecommunications base stations, as well as dish (aperture) antennas, typically used for microwave links. The antenna patterns are not fully formed in the near field at these antennas, and the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) gives suitable formulas for calculating power density within such zones.

For a panel or whip antenna, power density $S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D \times h}$, in mW/cm²,

and for an aperture antenna, maximum power density $S_{max} = \frac{0.1 \times 16 \times \eta \times P_{net}}{\pi \times h^2}$, in mW/cm²,

where θ_{BW} = half-power beamwidth of the antenna, in degrees, and

P_{net} = net power input to the antenna, in watts,

D = distance from antenna, in meters,

h = aperture height of the antenna, in meters, and

η = aperture efficiency (unitless, typically 0.5-0.8).

The factor of 0.1 in the numerators converts to the desired units of power density.

Far Field.

OET-65 gives this formula for calculating power density in the far field of an individual RF source:

$$\text{power density } S = \frac{2.56 \times 1.64 \times 100 \times \text{RFF}^2 \times \text{ERP}}{4 \times \pi \times D^2}, \text{ in mW/cm}^2,$$

where ERP = total ERP (all polarizations), in kilowatts,

RFF = relative field factor at the direction to the actual point of calculation, and

D = distance from the center of radiation to the point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 ($1.6 \times 1.6 = 2.56$). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula has been built into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radiation sources. The program also allows for the description of uneven terrain in the vicinity, to obtain more accurate projections.



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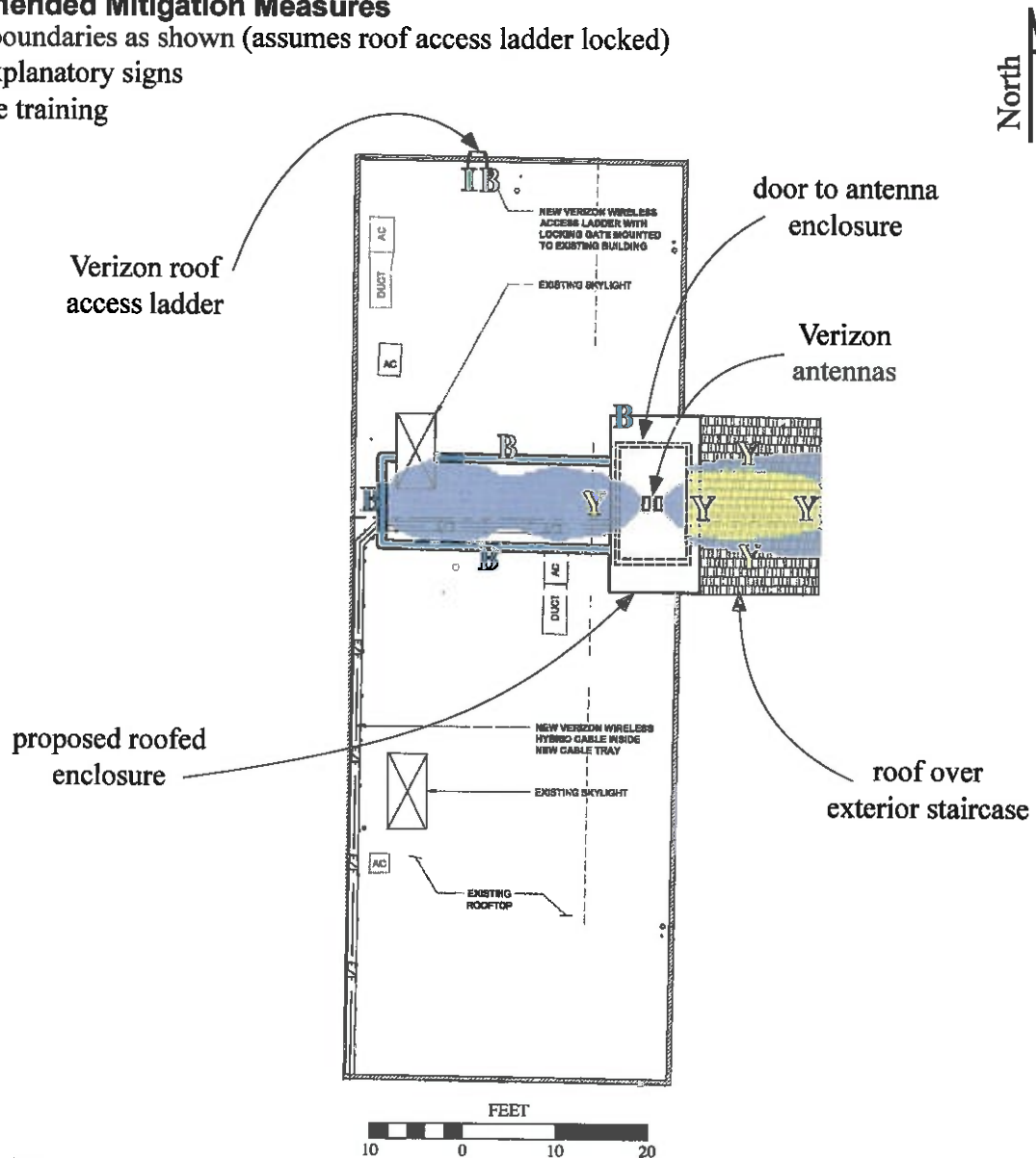
Methodology
Figure 2

**Verizon Wireless • Proposed Base Station (Site No. 263384 "Hwy 1 & 41st Ave SC1")
2601 41st Avenue • Soquel, California**

Calculated RF Exposure Levels on Roof

Recommended Mitigation Measures

- Mark boundaries as shown (assumes roof access ladder locked)
- Post explanatory signs
- Provide training



Notes: See text.

Base drawing from SAC Wireless, LLC, dated October 31, 2016.

Calculations performed according to OET Bulletin 65, August 1997.

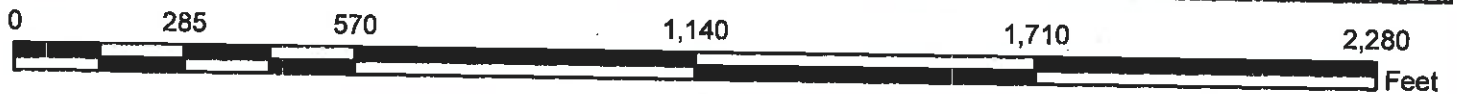
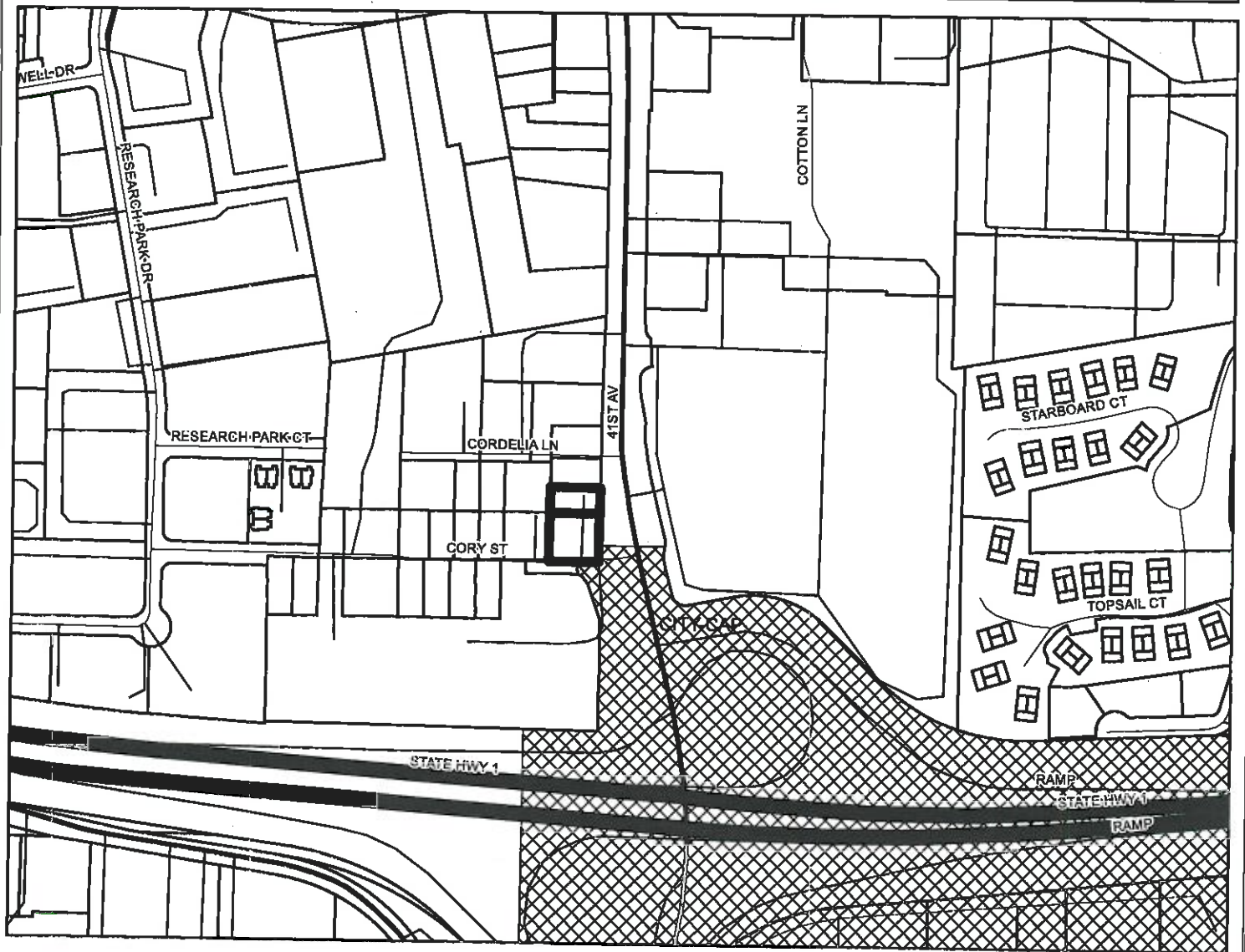
Legend:	Less Than Public	Exceeds Public	Exceeds Occupational	Exceeds 10x Occupational
Shaded color	blank	Blue	Yellow	Orange
Boundary marking	N/A	Blue line	Yellow line	Orange line
Sign type	II - Green INFORMATION	B - Blue NOTICE	Y - Yellow CAUTION	O - Orange WARNING



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H712.2
Figure 3

Location Map



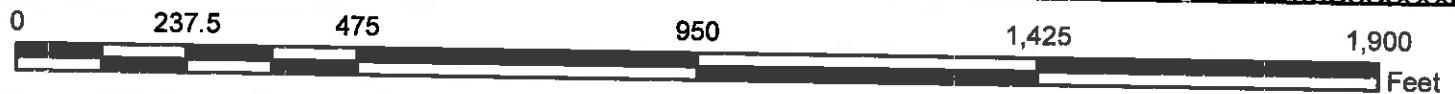
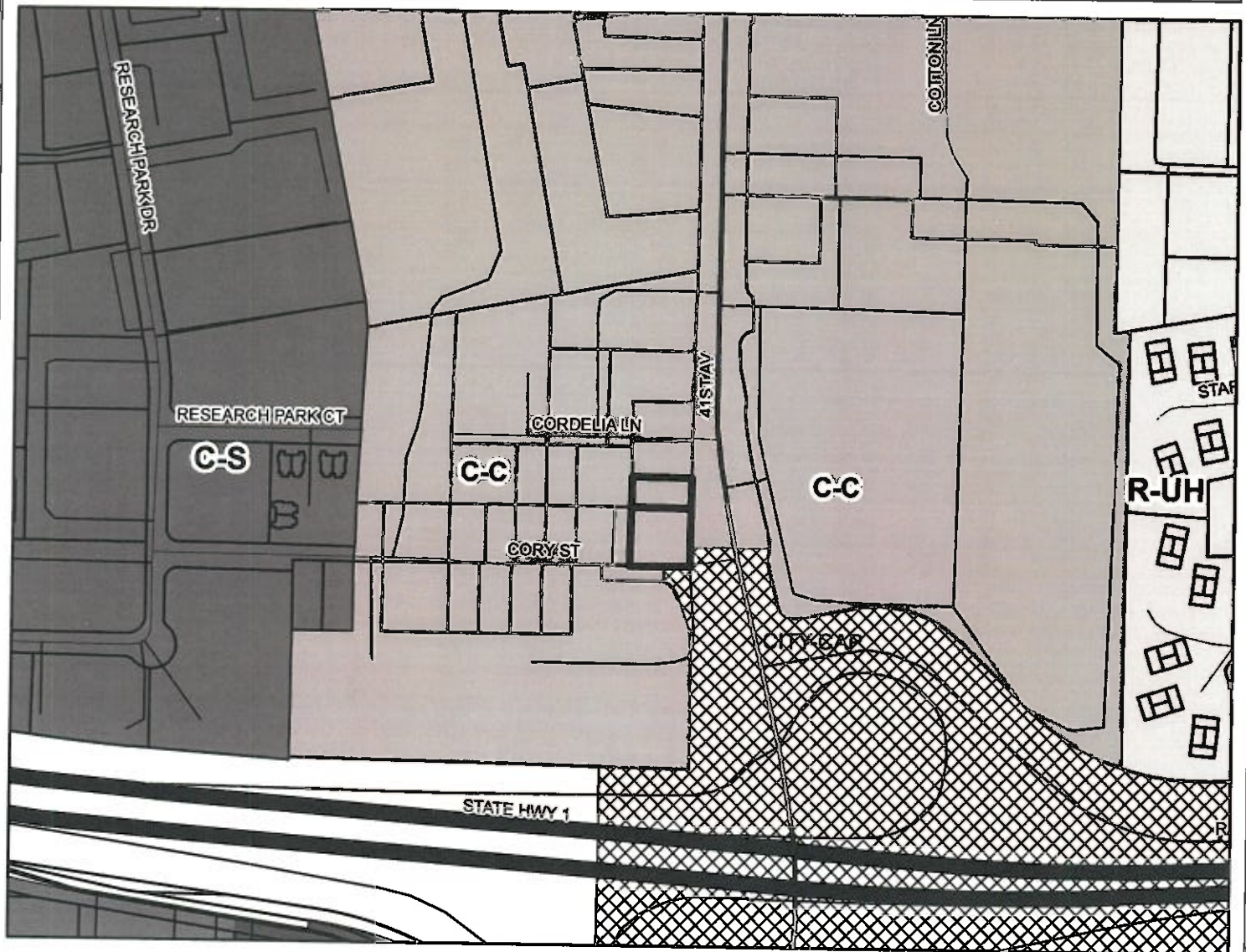
Legend

-  Project Area
-  Assessors Parcels
-  State Highway
-  Major Road
-  Street
-  CITY OF CAPITOLA



*Map Created by
County of Santa Cruz
Planning Department
December 2017*

General Plan Designations



Legend

- Project Area
- Assessors Parcels
- State Highway
- Major Road
- Street
- Commercial-Service
- Commercial-Community
- Residential - Urban High Density
- CITY OF CAPITOLA



Map Created by
County of Santa Cruz
Planning Department
December 2017

Zoning Designations



Legend

- Project Area
- Assessors Parcels
- State Highway
- Major Road
- Street
- LIGHT INDUSTRIAL
- COMMERCIAL-COMMUNITY
- SPECIAL USE
- RESIDENTIAL-MULTI FAMILY
- CITY PROPERTY



Map Created by
County of Santa Cruz
Planning Department
December 2017

Nathan MacBeth

From: Gong Lin <workspacegong@gmail.com>
Sent: Thursday, January 11, 2018 3:08 PM
To: Nathan MacBeth
Subject: 2601 41st Avenue, SOQUEL,

Hi Nathan,

I have received a notice of a public hearing on the construction of a wireless communication facility on 2601 41st Avenue, A & D, Soquel, and am voicing my objection to the project. Such a facility does not belong to 41st Avenue here.

--

Thanks,

Gong
WorkSpace
2701 41st Avenue, Soquel, CA 95073
831 462 2334
www.workspacesc.com

To Zoning Administrator 1-19-18
Santa Cruz County
Agenda Item 3 Today's agenda

These materials submitted
as substantiation to deny
a Verizon rooftop array
and related equipment
at 1601 41st Ave at corner
intersection w/ Corey St.

No resident/child or
pet has authorized 24/7
involuntary bodily microwave
radiation trespass & We
do NOT consent to these
violations of our privacy
health, constitutional, or
property rights.

Note; Should
this item be
continued, please
include this
documentation.

Margaret Corbett
351 Redwood Hts Rd
Aptos, CA 95003



Verizon Communications Inc.

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
FORM 10-K
ANNUAL REPORT fiscal year ended December 31, 2014

"We are subject to a significant amount of litigation, which could require us to pay significant damages or settlements."

"...our wireless business also faces personal injury and consumer class action lawsuits relating to alleged health effects of wireless phones or radio frequency transmitters, and class action lawsuits that challenge marketing practices and disclosures relating to alleged adverse health effects of handheld wireless phones. We may incur significant expenses in defending these lawsuits. In addition, we may be required to pay significant awards or settlements."

Verizon Communications Inc. is a registered trademark of Verizon Communications Inc. All other trademarks are the property of their respective owners.

Monday, December 4, 2017

Cell phone and cordless phone use causes brain cancer: New review

Increased Brain Tumor Risk from Wireless Phone Use: 2017 Supplement to the BioInitiative Report

Radio frequency radiation should be classified as "carcinogenic to humans" (Group 1).

In May, 2011, radio frequency radiation (RFR) was classified as a "possible" human carcinogen (Group 2B) by the International Agency for Research on Cancer (IARC) of the World Health Organization (WHO) based upon an increased risk for glioma and acoustic neuroma observed in human epidemiological studies.

Since then, RFR exposure has increased in most countries as few countries took any precautionary actions due to confusion sowed by the wireless industry. The emerging fifth generation of wireless technology, known as 5G, will further increase RFR exposure.

The RFR exposure limits adopted by most countries were established in 1998 by the International Commission on Non-Ionizing Radiation Protection (ICNIRP). The limits were based on short-term thermal (heating) effects from RFR and ignored non-thermal biological effects.

Although the ICNIRP guidelines were updated in 2009, they still do not cover long-term health risks from non-thermal exposures. ICNIRP's current RFR exposure limits are 2 to 10 W/m² depending on frequency. ICNIRP has 14 members; many have ties to industries that want to maintain these permissive guidelines.

In contrast to ICNIRP, in 2007 27 RFR scientists reviewed the literature on non-thermal health effects and released the BioInitiative Report. In 2012 when the report was updated, the authors concluded that health risks can be observed with an RFR exposure of 30 to 60 μ W/m². Applying a safety factor of 10, they proposed a precautionary target level of 3–6 μ W/m² which corresponds to three hundred thousand to three million times less exposure than the ICNIRP limits allow.

This supplement to the BioInitiative Report written by Lennart Hardell and Michael Carlberg examines the case-control research on brain tumor risk published since 2011 when IARC classified RFR as "possibly carcinogenic."

The report finds consistent evidence of increased risk for glioma and acoustic neuroma associated with mobile phone and cordless phone use. These results are supported by results from animal studies showing genotoxic, co-carcinogenic, and tumor-promoting

effects from RFR. Animal research finds evidence for an indirect mechanism for RFR-induced cancer, namely, oxidative stress on the cells leading to free radical production and DNA damage.

The supplement concludes that RFR should now be classified as "carcinogenic to humans" (Group 1) based on the IARC definition for this category:

"an agent may be placed in this category when evidence of carcinogenicity in humans is less than sufficient but there is sufficient evidence of carcinogenicity in experimental animals and strong evidence in exposed humans that the agent acts through a relevant mechanism of carcinogenicity."

--
Lennart Hardell, Michael Carlberg. Use of Wireless Phones and Evidence for Increased Risk of Brain Tumors: 2017 Supplement. BioInitiative Working Group, November, 2017. The supplement to the BioInitiative Report is available at: <http://bit.ly/bioinitbrain2017>. BioInitiative Report: www.bioinitiative.org

5G Appeal

Scientists and doctors warn of potential serious health effects of 5G

September 13, 2017

We the undersigned, more than 180 scientists and doctors from 36 countries, recommend a moratorium on the roll-out of the fifth generation, 5G, for telecommunication until potential hazards for human health and the environment have been fully investigated by scientists independent from industry. 5G will substantially increase exposure to radiofrequency electromagnetic fields (RF-EMF) on top of the 2G, 3G, 4G, Wi-Fi, etc. for telecommunications already in place. RF-EMF has been proven to be harmful for humans and the environment.

(Note: [Blue links](#) below are references.)

5G leads to massive increase of mandatory exposure to wireless radiation

5G technology is effective only over short distance. It is poorly transmitted through solid material. Many new antennas will be required and full-scale implementation will result in antennas every 10 to 12 houses in urban areas, thus massively increasing mandatory exposure.

With "[the ever more extensive use of wireless technologies](#)," nobody can avoid to be exposed. Because on top of the increased number of 5G-transmitters (even within housing, shops and in hospitals) according to estimates, "[10 to 20 billion connections](#)" (to refrigerators, washing machines, surveillance cameras, self-driving cars and buses, etc.) will be parts of the Internet of Things. All these together can cause a substantial increase in the total, long term RF-EMF exposure to all EU citizens.

Harmful effects of RF-EMF exposure are already proven

Over [230 scientists from more than 40 countries](#) have expressed their "serious concerns" regarding the ubiquitous and increasing exposure to EMF generated by electric and wireless devices already before the additional 5G roll-out. They refer to the fact that "numerous recent scientific publications have shown that *EMF affects living organisms at levels well below most international and national guidelines*". Effects include increased cancer risk, cellular stress, increase in harmful free radicals, genetic damages, structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being in humans. Damage goes well beyond the human race, as there is growing [evidence of harmful effects to both plants and animals](#).

After the scientists' appeal was written in 2015 additional research has convincingly confirmed serious health risks from RF-EMF fields from wireless technology. The world's largest study (25 million US dollar) [National Toxicology Program \(NTP\)](#), shows statistically significant increase in the incidence of *brain and heart cancer* in animals exposed to EMF below the ICNIRP (International Commission on Non-Ionizing Radiation Protection) guidelines followed by most countries. These results support results in [human epidemiological studies](#) on RF radiation and brain tumour risk. [A large number of peer-reviewed scientific reports](#) demonstrate harm to human health from EMFs.

The International Agency for Research on Cancer (IARC), the cancer agency of the World Health Organization (WHO), in 2011 concluded that EMFs of frequencies 30 KHz – 300 GHz are possibly [carcinogenic to humans \(Group 2B\)](#). However, new studies like the NTP study mentioned above and several epidemiological investigations including the latest studies on mobile phone use and brain cancer risks [confirm that RF-EMF radiation is carcinogenic to humans](#).

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The EUROPA EM-EMF Guideline 2016 states that "there is strong evidence that *long-term exposure to certain EMFs is a risk factor for diseases* such as certain cancers, Alzheimer's disease, and male infertility...Common EHS (electromagnetic hypersensitivity) symptoms include headaches, concentration difficulties, sleep problems, depression, lack of energy, fatigue, and flu-like symptoms."

An increasing part of the European population is affected by ill health symptoms that have for many years been linked to exposure to EMF and wireless radiation in the scientific literature. The International Scientific Declaration on EHS & multiple chemical sensitivity (MCS), Brussels 2015, declares that: "In view of our present scientific knowledge, we thereby stress all national and international bodies and institutions...to recognize EHS and MCS as true medical conditions which acting as sentinel diseases may create a *major public health concern in years to come worldwide* i.e. in all the countries implementing unrestricted use of electromagnetic field-based wireless technologies and marketed chemical substances... ***Inaction is a cost to society*** and is not an option anymore... we unanimously acknowledge this serious hazard to public health...that major primary *prevention measures are adopted and prioritized, to face this worldwide pan-epidemic in perspective.*"

Precautions

The Precautionary Principle (UNESCO) was adopted by EU 2005: "When human activities may lead to morally unacceptable harm that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm."

Resolution 1815 (Council of Europe, 2011): "Take all reasonable measures to reduce exposure to electromagnetic fields, especially to radio frequencies from mobile phones, and particularly the exposure to children and young people who seem to be most at risk from head tumours...Assembly strongly recommends that the ALARA (as low as reasonably achievable) principle is applied, covering both the so-called thermal effects and the athermic [non-thermal] or biological effects of electromagnetic emissions or radiation" and to "improve risk-assessment standards and quality".

The Nuremberg code (1949) applies to all experiments on humans, thus including the roll-out of 5G with new, higher RF-EMF exposure. All such experiments: "should be based on previous knowledge (e.g., an expectation derived from animal experiments) that justifies the experiment. No experiment should be conducted, where there is an *a priori* reason to believe that death or disabling injury will occur; except, perhaps, in those experiments where the experimental physicians also serve as subjects." (Nuremberg code pts 3-5). Already published scientific studies show that there is "a priori reason to believe" in real health hazards.

The European Environment Agency (EEA) is warning for "Radiation risk from everyday devices" in spite of the radiation being below the WHO/ICNIRP standards. EEA also concludes: "There are many examples of the failure to use the precautionary principle in the past, which have *resulted in serious and often irreversible damage to health and environments*...harmful exposures can be widespread before there is both 'convincing' evidence of harm from long-term exposures, and biological understanding [mechanism] of how that harm is caused."

"Safety guidelines" protect industry — not health

The current ICNIRP "safety guidelines" are obsolete. All proofs of harm mentioned above arise although the radiation is below the ICNIRP "safety guidelines". Therefore new safety standards are necessary. The reason for the misleading guidelines is that "conflict of interest of ICNIRP members due to their *relationships with telecommunications or electric companies* undermine the impartiality that should govern the

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regulation of Public Exposure Standards for non-ionizing radiation...To evaluate cancer risks it is necessary to include scientists with competence in medicine, especially oncology."

The current ICNIRP/WHO guidelines for EMF are based on the obsolete hypothesis that "The critical effect of RF-EMF exposure relevant to human health and safety is heating of exposed tissue." However, scientists have proven that many different kinds of *illnesses and harms* are caused without heating ("non-thermal effect") at radiation levels well below ICNIRP guidelines.

We urge EU:

- 1) To take all reasonable measures to halt the 5G RF-EMF expansion until independent scientists can assure that 5G and the total radiation levels caused by RF-EMF (5G together with 2G, 3G, 4G, and WiFi) will not be harmful for EU-citizens, especially infants, children and pregnant women, as well as the environment.
- 2) To recommend that all EU countries, especially their radiation safety agencies, follow Resolution 1815 and inform citizens, including, teachers and physicians, about health risks from RF-EMF radiation, how and why to avoid wireless communication, particularly in/near e.g., daycare centers, schools, homes, workplaces, hospitals and elderly care.
- 3) To appoint immediately, without industry influence, an EU task force of independent, truly impartial EMF-and-health scientists with no conflicts of interest¹ to re-evaluate the health risks and:
 - a) To decide about new, safe "maximum total exposure standards" for all wireless communication within EU.
 - b) To study the total and cumulative exposure affecting EU-citizens.
 - c) To create rules that will be prescribed/enforced within the EU about how to avoid exposure exceeding new EU "maximum total exposure standards" concerning all kinds of EMFs in order to protect citizens, especially infants, children and pregnant women.
- 4) To prevent the wireless/telecom industry through its lobbying organizations from persuading EU-officials to make decisions about further propagation of RF radiation including 5G in Europe.
- 5) To favor and implement wired digital telecommunication instead of wireless.

*We expect an answer from you no later than **October 31, 2017** to the two first mentioned signatories about what measures you will take to protect the EU-inhabitants against RF-EMF and especially 5G radiation. This appeal and your response will be publicly available.*

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¹ Avoid similar mistakes as when the Commission (2008/721/EC) appointed industry supportive members for SCENIHR, who submitted to EU a misleading SCENIHR report on health risks, giving telecom industry a clean bill to irradiate EU-citizens. The report is now quoted by radiation safety agencies in EU.

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Note: The endorsements are personal and not necessarily supported
by the affiliated universities or organizations.

Updated with new Signatories: September 15, 2017

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S. M. J. Mortazavi, PhD, Professor of Medical Physics, Visiting Scientist, Fox Chase Cancer Center, Philadelphia, PA
Joel M. Moskowitz, PhD, Director, Center for Family and Community Health, School of Public Health, University of California, Berkeley, CA
Martin Pall, BA, PhD, Professor Emeritus (Biochemistry and basic medicine), Pullman, WA
Jerry L. Phillips, PhD, Exec. Director, Excel Centers, Professor Attendant, Department of Chemistry & Biochemistry, University of Colorado, Colorado Springs, CO
Camilla R. G. Rees, MBA, Health Researcher, Author, "The Wireless Elephant in the Room" CEO, Wide Angle Health, Sr. Policy Advisor, National Institute for Science, Law & Public Policy, NY
Cindy Sage, MA, Sage Associates, Co-Editor, BioInitiative Reports, Santa Barbara, CA
Eugene Sabel, PhD, Professor (Retired), University of Southern California School of Medicine, CA
John G. West, MD, Director of Surgery, Breastlink, CA
Cindy Russell, MD, Founding Member, Physicians for Safe Technology, CA.

Santa Cruz Sentinel

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TECHNOLOGY

State has new cellphone advisory

Activists of all kinds
applaud new guidelines
as most stringent yet

By Tracy Seipel
and Tom Cochran
Bay Area News Group

SACRAMENTO — California's new cellphone safety guidelines issued this week are being welcomed by the public health, environmental and First Amendment advocates who successfully sued the state to release guidelines that had been languishing since 2009.

In fact, the lawsuit's plaintiff Joel Moskowitz said the new advisory goes "well beyond what any federal health agency has published on this issue."

But Moskowitz, director of the Center for Family and Community Health at UC Berkeley's School of Public Health, remains frustrated that the three-page document doesn't more forcefully convey the risks of long-term exposure to cell phone radiation.

"The science is a lot stronger now, but you would not think that reading from this document," the public health researcher said. "It's underplayed."

That's not how Dr. Karen Smith sees it.

As director of the California Department of Public Health, she not only stands behind the wording of the guidance published Wednesday, she also denies that its release had anything to do with litigation that ended last spring.

"We would have done exactly the same thing — if there had been a lawsuit or not," Smith said.

The lawsuit, filed in May 2016 by attorneys with the Oakland-

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Advisory

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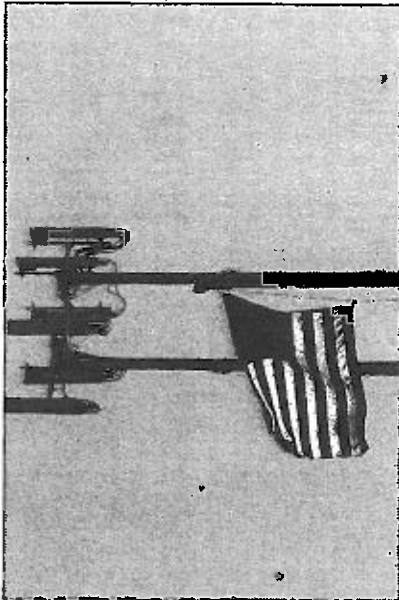
based First Amendment Project and the UC Berkeley Environmental Law Clinic alleged that, despite repeated requests Moskowitz had made under California's Public Records Act, Smith's department had improperly refused to release records discussing the health risks associated with cell phone use.

The state argued the documents were preliminary and their release would cause "undue panic." But Moskowitz's attorneys argued that the public has a compelling interest in evaluating how the department is responding to a potential health risk to which millions of Californians are exposed. The suit asked the court to order the department to release the records and declare that they are not exempt from disclosure under the state's public records act.

"We are delighted that the California Department of Public Health is finally revealing affirmatively to the public what it knows about how to protect consumers from cell phone radiation," said Claudia Polsky, Moskowitz's lead attorney and founding director of the Environmental Law Clinic.

Send, receive

Cell phones discharge radio frequency radiation when they send and receive signals to and from



AT&T portable cell phone tower set up in parking lot of the Pacific Grove Adult School in Pacific Grove on April 26, 2011.

cell towers.

The state's new guidance explains that some laboratory experiments and human health studies have suggested that long-term, high cellphone use may be linked to brain cancer and tumors of the acoustic nerve and salivary glands; lower sperm counts; headaches; and adverse effects on learning and memory. And, the document adds, children may be more at risk for harm from exposure to the cell phone radiation.

The new guidelines echo a Berkeley City Council action in May 2015, when it approved a cell phone disclosure ordinance that obligates vendors to warn buyers that carrying the devices close to the body could expose them to excessive radiation.

Smith said the science linking cell phone use to health problems remains unclear and that "we are not in a place where the pre-

ponderance of the science is on either side."

Despite the uncertainty, the state guidance advises consumers to, among other things, keep cell phones away from their head and bodies during the day and their beds at night, as well as avoid using cell phones when streamlining audio or video or downloading or sending large files.

Smith said the decision to post the guidance was prompted by rapidly changing patterns of cell phone use in the U.S., especially the fact that more children are using the devices at younger ages. For many other people, cell phones have become the only way they can access the internet.

"We thought this was a good time — there are things people can do to decrease their exposure if they are concerned," Smith told the Bay Area News Group.

HOW TO REDUCE YOUR EXPOSURE

The new state guidelines include practical steps to reduce exposure to radio frequency radiation from cell phones, such as:

- Carry your cell phone in a backpack, briefcase or purse, NOT in a pocket, bra or belt holster.
- Reduce cell phone use when the signal is weak.
- Limit the use of cell phones to stream audio or video, or to download or upload large files.
- Keep your cell phone away from your bed at night.
- Remove your headsets when not on a call.

Avoid products that claim to block radio frequency energy. "These products may actually increase your exposure," the guidelines say.

Source: California Department of Public Health

Consult experts

Following the state's announcement Wednesday, the Cellular Telecommunications Industry Association, the wireless industry's trade group, issued a statement saying "Americans' health is important to CTIA and the wireless industry, and we encourage consumers to consult the experts."

The group then pointed out that the U.S. Food and Drug Administration, the Federal Communications Commission, the World Health Organization, the American Cancer Society and numerous other international and U.S. organizations and health experts say that "the scientific evidence shows no known health risk due to the RF energy emitted by cellphones."

Moskowitz, who has spent eight years studying and writing about the issue of electromagnetic radiation exposure, vehemently disagrees with the group.

Moskowitz said the state guidance is "a misinterpretation," Smith insisted, "that it was being suppressed."

Started in 2013

Moskowitz's odyssey began in 2013 after a wireless safety advocate alerted

him that the Division of Environmental and Occupational Disease Control in the state public health department had originally drafted warnings about cell phone use in 2009. Moskowitz filed a series of Public Records Act requests for the document, but officials refused to release them.

Documents later revealed that the consensus of the division staff in 2009 had been to publish the guidance, but that their bosses balked.

Moskowitz said the documents were suppressed until his lawyers convinced a Sacramento County Superior Court judge in March to order the state to turn over the guidelines.

Polsky, Moskowitz's lead attorney, called Smith's assertion that the release of the guidance this week was unrelated to her client "implausible." She said the victory that forced an earlier version of this guidance document "into the open over the CDPH's strenuous objection" happened earlier this year.

Smith noted that part of the delay in making the guidelines public was that in 2014 the U.S. Centers for Disease and Control had issued its own cell phone safety guidance.

"When we looked at it, basically it said everything we were going to say, which is why we stopped moving forward with the guidelines," she said.

"It's a misinterpretation," Smith insisted, "that it was being suppressed."

Press release: June 1, 2016

For immediate distribution

**Contact: Nina Beety 831-655-9902
Wireless Radiation Alert Network**

MAJOR U.S. GOVERNMENT STUDY FINDS CELL PHONE RADIATION CAUSES CANCER

Last Thursday, the U.S. National Toxicology Program released final peer-reviewed results of its \$25 million study on rats and cell phone radiation exposure. The findings: 1 in 12 male rats developed malignant brain tumors (glioma) or malignant heart tumors (schwannoma) or pre-cancerous lesions. None of the rats in the control group developed tumors of the brain or heart or pre-cancerous lesions. Birth weights for exposed animals were also lower than for control animals.

Microwave News, which announced the impending release of results, cited an unnamed source within NTP that senior scientists wanted to get this information out to the public as soon as possible.

Chris Portier, former associate director of the NTP, called this study a "game changer" and "a wake-up call to the scientific establishment." These results concur with human studies such as the 5-country Interphone study which found significant 40-95% increases in glioma after only 10 years for cell phone usage as little as ½ hour per day. The latency for brain tumors is normally 15-30 years. The WHO IARC listed this radiation as a Class 2B carcinogen in 2011.

The NTP study was designed to mimic human exposure and look at effects on all parts of the body. Consumer Affairs says, "Rats are commonly used in cancer studies because their reactions to various carcinogens are similar to humans." The study intentionally kept exposure levels low, below levels that would increase body temperature. As a result, the cancers were not caused by thermal effects. Current FCC exposure limits are only based on thermal effects. Wireless devices are tested for compliance with these thermal limits but are not safety tested.

Female rats developed tumors or pre-cancerous lesions at a lower level which was not considered statistically significant. American Cancer Society stated: "It's important to note that these sorts of gender differences often appear in carcinogenic studies."

The frequency tested was 900 MHz for 10 minutes on and 10 minutes off for a cumulative time of 9 hours per day. This frequency is close to that used by other wireless devices including PG&E wireless Smart Meters.

The American Cancer Society called the NTP report "good science," saying

NTP staff were clearly aware of the potential importance of this study and went the extra distance to ensure the best science is used. They used double the

number of animals required for this type of study; they convened not one but three panels to look at abnormal tissues from treated animals to ensure that what was identified as a brain and heart tumor was indeed a brain and heart tumor; they solicited review from multiple scientists from outside the NTP to critically review all aspects of the data analysis and study findings, to ensure the findings would stand up to the critical assessment expected once these unexpected findings were released.

On Friday, the Institute for Electrical and Electronics Engineers (IEEE) released a statement with comments from Ken Foster of the IEEE committee that reviews RF exposure limits:

With the NTP study results, Foster expects more governments to put out cautionary guidelines and radiation labeling for cellphones. He says he wouldn't be surprised if California adds RF radiation to its Proposition 65 list of carcinogenic chemicals, and if the IARC ups its classification rating from 2B: possibly carcinogenic to humans to 2A: probably carcinogenic to humans. "And they wouldn't be out of line in doing that," he says. "This is going to change the rhetoric in the field. People can point to much more hard evidence that [cellphone RF exposure] really is a problem."

Joel Moskowitz, Director, Center for Family and Community Health at the School of Public Health, UC Berkeley:

The results of the study reinforce the need for more stringent regulation of radiofrequency radiation and better disclosure of the health risks associated with wireless technologies -- two demands made by the International EMF Scientist Appeal -- a petition signed by 220 scientists who have published research on the effects of electromagnetic radiation.

Ron Melnick, retired from the National Toxicology Program, told Microwave News:

The NTP tested the hypothesis that cell phone radiation could not cause health effects and that hypothesis has now been disproved...After extensive reviews, the consensus is that there was a carcinogenic effect...This is a major public health concern because the cells which became cancerous in the rats were the same types of cells as those that have been reported to develop into tumors in cell phone epidemiological studies.

IEEE calls NTP studies "the gold standard for animal cancer assays". The National Toxicology Program is part of the National Institutes of Health, and tests substances for toxicity and effects on human health.

NTP report: <http://bit.ly/NTPcell1>

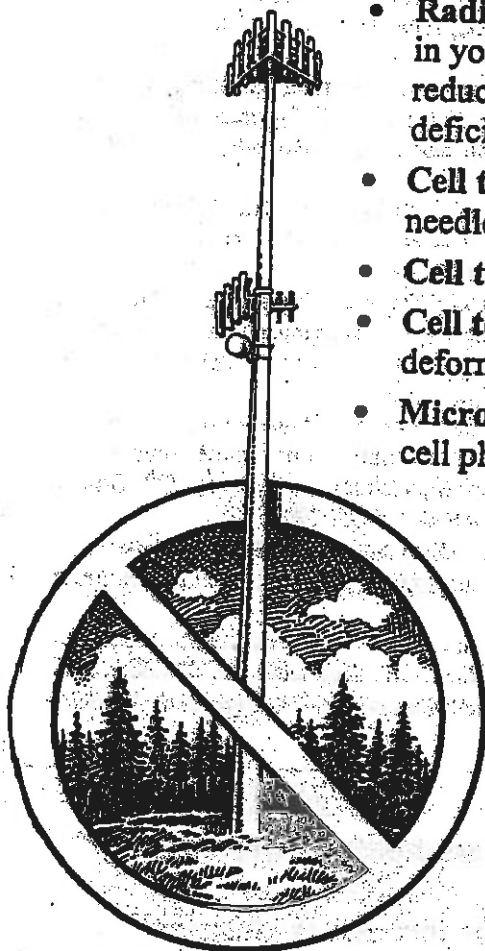
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DANGER: RADIATION



Warning: the brain has no pain receptors!

- Using a cell phone or digital cordless phone for 2 minutes disrupts the blood-brain barrier. Longer use permanently destroys brain cells. Dizziness, nausea, insomnia, memory loss, inability to concentrate, fatigue, depression, anxiety and agitation are neurological symptoms warning you of irreversible damage.
- You are also irradiating everyone within 100 yards of you, causing more vulnerable people pain and suffering—head pain, chest pain, palpitations, muscle spasms, etc. You may not feel the effects immediately, but at least 3% of the population does.
- The cell towers that make your cell phone work are irradiating the entire countryside. If a cell phone will work where you live, you are being irradiated 24 hours a day.
- Radiation from towers and phones also causes: strokes and heart attacks in young people, high blood pressure, arrhythmias, asthma, flu-like illness, reduced sperm count, auditory disturbance, epilepsy, autism, attention deficit disorder, thyroid disease, cataracts, leukemia, and brain cancer.
- Cell towers affect our forests: trees grow more slowly, lose their leaves or needles prematurely, and become susceptible to fungal diseases.
- Cell towers disorient and kill migrating birds.
- Cell towers lower milk production in dairy cows, and cause birth deformities in wild and domestic animals.
- Microwave pollution has grown out of control since 1996, when digital cell phones were introduced. One million Americans are already so disabled by electromagnetic pollution that they cannot work. Increasingly many are also homeless—environmental refugees with no place to hide.



See other side for a summary of current science

"Radiofrequencies emitted from mobile telephone towers will have deleterious medical effects to people within the near vicinity according to a large body of scientific literature. Babies and children will be particularly sensitive to the mutagenic and carcinogenic effects of this radiofrequency radiation. It is therefore criminal to place one of these acrials on or near a school..." — Helen Caldicott, M.D., Pediatrician, co-founder of Physicians for Social Responsibility, "Telecom Tower Tsunami," New Milford Times (CT), March 3, 2000.

Here is what scientists are finding:

Every cell phone call damages brain cells

Scientists at Lund University in Sweden exposed rats to a cell phone just once for two hours, and then sacrificed them two months later. The rats which had been exposed had scattered areas of shrunken, degenerated neurons throughout their brains.¹

This is alarming, because up to 70% of cell phone users experience one or more of the following: warmth around the ear, burning sensations in the face, fatigue, headache, dizziness, difficulty concentrating, memory loss and insomnia.^{2,3} These are warning signs of nervous system damage.

Like cigarettes, cell phones and towers harm both users and non-users

Secondhand radiation comes from nearby cell phones, and from nearby and even distant cell towers.

Researchers in 8 countries have found that the closer people live to cell towers, the more likely they are to suffer from fatigue, irritability, headaches, dizziness, nausea, shortness of breath, weakness, sleep disturbances, difficulty concentrating, memory loss, depression, skin problems, visual and hearing disturbances, tremors and cardiovascular problems.⁴⁻⁶

Men who wear cell phones on their waist have lower sperm count

Cell phones emit radiation continually, even in stand-by mode when they are not in use.

Fertility specialists at the University of Szeged in Hungary found that men who carry a cell phone on their belt or in a trouser pocket have up to a 30% reduction in both sperm count and sperm motility.⁷ At an infertility clinic in Cleveland, heavy cell phone users had a 40% reduction in sperm count, a 34% reduction in sperm motility and viability, and more than double the number of abnormal sperm compared to non-cell phone users.⁸

Cell phones and cell towers cause diabetes

It has been known since the 1950s, from both occupational health studies and animal research, that low-level microwave radiation interferes with carbohydrate metabolism, increases blood sugar and inhibits insulin production.⁹ Now, doctors are finding that cell towers as well as wireless technology in homes is causing an increase in both type 1 and type 2 diabetes. And cleaning up the electromagnetic environment of many diabetics has reduced their symptoms and their blood sugar levels.¹⁰

¹ LG Salford *et al.*, "Nerve Cell Damage in Mammalian Brain after Exposure to Microwaves from GSM Mobile Phones," *Environmental Health Perspectives* 111:888-883, 2003.

² R Santini *et al.*, "Symptoms Experienced by Users of Digital Cellular Phones," *Electromagnetic Biology and Medicine* 21:81-88, 2002;

³ OE Salama *et al.*, "Cellular phones: Are they detrimental?" *Journal of the Egyptian Public Health Association* 79(3-4): 197-223, 2004.

⁴ EA Navarro *et al.*, "The Microwave Syndrome: A Preliminary Study in Spain," *Electromagnetic Biology and Medicine* 22:161-169, 2003;

⁵ H-P Hutter *et al.*, "Subjective symptoms, sleeping problems, and cognitive performance in subjects living near mobile phone base stations," *Occupational and Environmental Medicine* 63:307-13, 2006;

⁶ G Abdel-Rassoul *et al.*, "Neurobehavioral effects among inhabitants around mobile phone base stations," *NeuroToxicology* 28:434-440, 2007.

⁷ I Fejes *et al.*, "Relationship Between Regular Cell Phone Use and Human Semen Quality," paper presented at the 20th Annual Meeting of the European Society of Human Reproduction and Embryology, Berlin, June 29, 2004.

⁸ A Agarwal *et al.*, "Effect of Cell Phone Usage on Semen Analysis in Men Attending Infertility Clinic," paper presented at the American Society for Reproductive Medicine 62nd Annual Meeting, New Orleans, October 21-25, 2006.

⁹ J Bielski, M Sikorski, "Disturbances of glucose tolerance in workers exposed to electromagnetic radiation," *Medycyna Pracy* 47(3):227-231, 1996.

¹⁰ M Havas, "Electromagnetic Hypersensitivity: Biological Effects of Dirty Electricity with Emphasis on Diabetes and Multiple Sclerosis," *Electromagnetic Biology and Medicine* 25:259-286, 2006.

"I have no doubt in my mind that at the present time, the greatest polluting element in the earth's environment is the proliferation of electromagnetic fields. I consider that to be far greater, on a global scale, than warming, and the increase in chemical elements in the environment."

— Robert O. Becker, M.D.

Monterey County Herald (<http://www.montereyherald.com>)

and Santa Cruz County and beyond

Nina Beety: Monterey cell tower onslaught fraught with risk

By Nina Beety, Guest commentary

Friday, September 30, 2016

A cell tower tsunami is about to hit our community, affecting humans, wildlife and trees.

The Federal Communications Commission is pushing new cell towers (called “small cells”) into the public right-of-way in preparation for 5G — Chair Tom Wheeler proudly calls it “infrastructure intensive, requiring a massive deployment of small cells.” This is not for phone coverage. It is for future technology uses and faster streaming video.

These pole-mounted microwave transmitters will be located on sidewalks and in front yards, outside front doors and bedroom windows throughout our community. In places where utilities are undergrounded, new utility poles will be erected for these antennas.

The visual blight will be substantial, with multiple antennas installed on many utility poles. The radiation will be everywhere.

There will also be probable noise issues with buzzing from the electronics and cooling fans, most noticeable at night when people are sleeping.

California law says that telecom uses of the right-of-way cannot “incommode” the public, yet that’s exactly what these intrusive antennas do.

Microwave radiation emissions cause human and environmental damage. This radiation harms birds, butterflies, bees, trees and other species.

These antennas violate ADA; for those disabled by sensitivity to electromagnetic radiation, these towers will turn sidewalks and streets into “no go” zones. Eventually, there will be no safe place anywhere.

Thousands of U.S. cell towers are out of compliance with FCC limits, as high as 600 percent. Once antennas are installed, Crown Castle and other providers may broadcast at any level; violations have been sent to the FCC, but it has taken no action. Crown Castle’s antennas already exceed FCC thermal guidelines as far as 4 feet from their face. Crown Castle hasn’t provided a number, or what levels the antennas emit at 5 feet, 6 feet or 8 feet out, though. The space around these antennas is not a vacuum. Birds, bats, bees, butterflies and other insects inhabit these zones, and homes with second stories are directly adjacent.

FCC limits have not been updated since 1996, and those limits are only based on heating effects to a large man for a few minutes of exposure. There are no guidelines for non-thermal biological effects or

chronic exposure or exposure to children. Other countries have much stricter standards than the United States.

The National Toxicology Program of the National Institutes of Health announced in May that this radiation causes brain tumors, heart tumors and pre-cancerous lesions below FCC thermal limits. Substantial peer-reviewed research has shown harm from this radiation for decades and that cancer clusters occur around cell towers up to one-quarter-mile away. Radiation comparisons to baby monitors and other wireless devices, none of which have been safety tested, are little comfort.

Tuesday, the Monterey City Council will consider a wireless ordinance revision that allows these new cell towers. It will also hear an appeal by Crown Castle to allow the first cell tower in Monterey's right-of-way, which the Planning Commission previously rejected. If approved, this tower will create precedent for right-of-way use throughout Monterey, even if the new ordinance is not approved.

The Pacific Grove Planning Commission has approved three right-of-way antenna projects along Central Avenue. This approval creates a precedent in Pacific Grove unless it is appealed and overturned. The Planning Commission ignored its ordinance that prohibits actions that would be injurious to monarch butterflies. Microwave radiation affects butterflies on many levels, including to immune function, fertility, navigation, learning, DNA and causing blood-brain barrier breaches. P.G. and Monterey also routinely sign off on health and safety declarations in the paperwork.

Crown Castle, according to its 2014 SEC filing, does not have liability insurance for health effects. If residents sue over these cell towers, the cities will be left defenseless. The company also has substantial indebtedness, which can impair its ability to do proper maintenance.

The law firm which Monterey hired to consult with for these issues stated on its website: "Fast and reliable legal services for the telecom industry and cell site landlords." This was removed after I brought it to the attention of the City Council, but staff continue to consult with the firm to create this ordinance and support Crown Castle's appeal.

The character and health of our towns will be irreparably damaged by allowing cell towers in the public's right-of-way. Two years from now, it will be too late to say, "I wish we'd known. I wish we'd said no." Please oppose these towers and Monterey's new ordinance before it is too late.

Nina Beety is a member of the California EMF Safety Coalition. She lives in Monterey.

URL: <http://www.montereyherald.com/opinion/20160930/nina-beety-monterey-cell-tower-onslaught-fraught-with-risk>

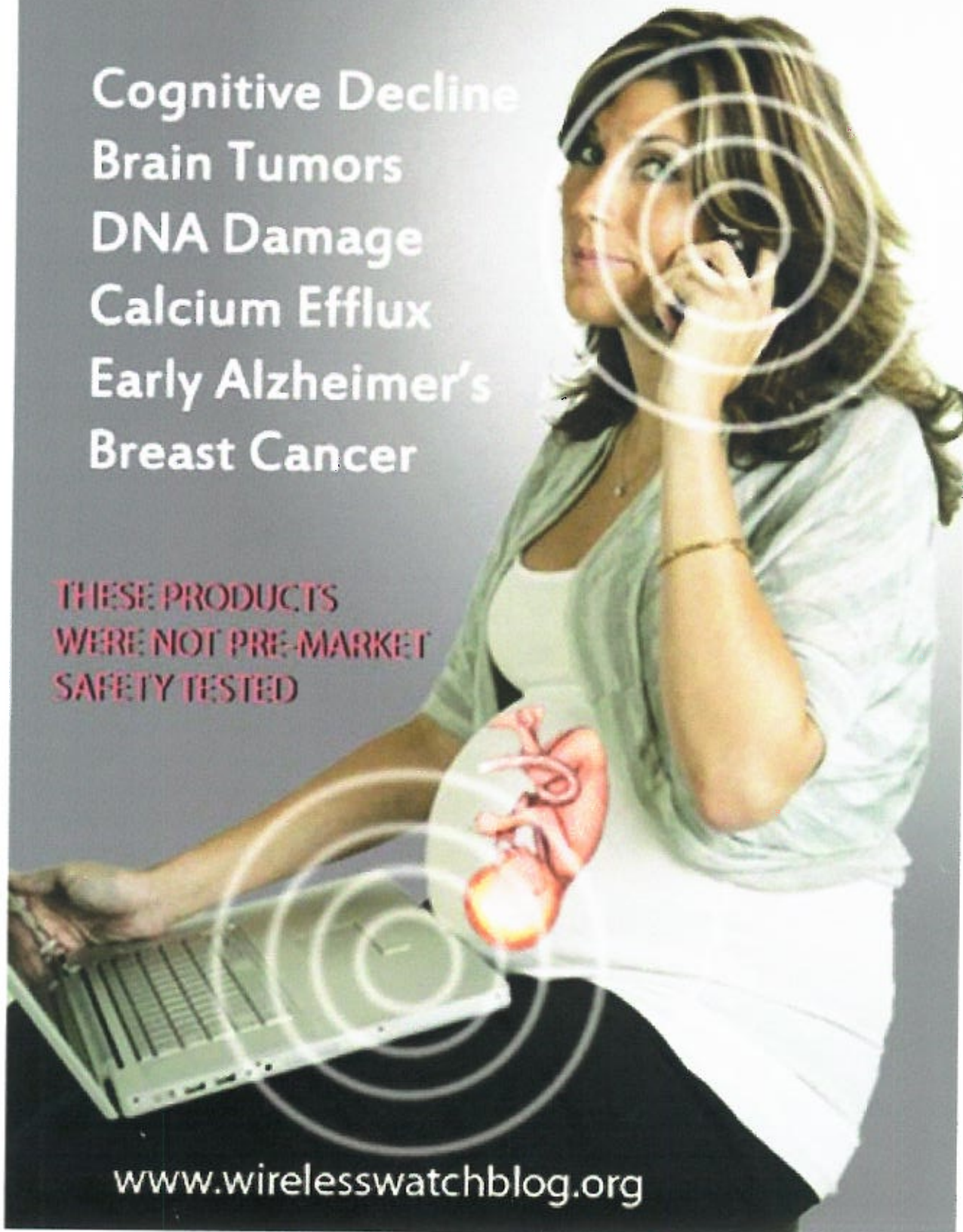
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THE FUTURE ?

Cognitive Decline
Brain Tumors
DNA Damage
Calcium Efflux
Early Alzheimer's
Breast Cancer

THESE PRODUCTS
WERE NOT PRE-MARKET
SAFETY TESTED



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